MODERN BUSINESS

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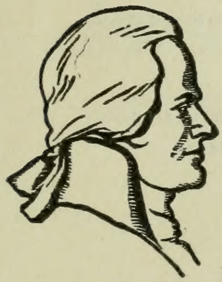

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Modern business

INVESTMENT

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PREFACE

The subject of investment, regarded as a body of knowledge, is an assemblage of material derived from many different sources. One can recognize in it ideas taken from law, from accounting, from corporation finance, from mathematics, and from the general literature of industry and commerce.

The matters which appear to be in some degree exclusive to the subject are the study of security fluctuations and trade cycles, together with information as to the technique of trading. To deal exclusively with such subjects would mean writing a book upon speculation rather than upon investment. Altho investment and speculation cannot be kept entirely apart, it is precisely because investment rests upon the bases of organized knowledge above referred to, that it aspires to be scientific in method, while speculation is an art.

In presenting a general text upon investment, which aims to preserve some sort of balance and proportion between the various topics, an author must lay aside, or severely abbreviate, his special studies, and offer a book of general or introductory character. Of the utility of such books there can be no question. The daily losses of investors' capital bear sufficient testimony to that. But such a book should be looked

upon by the reader as an introduction to the subject, and not as something upon the completion of the last page of which he may arise and go forth to deal with the complexities of the modern security market as a full-fledged expert.

If such a book is a synthesis of law, accounting, corporation finance, etc., and an application and illustration of them, it should move the reader to return to the study of those subjects with renewed zeal.

Another result should be to make somewhat more clear in the reader's mind what expertness or competence or science in investment means. If the veil has been drawn aside for a brief time, and he has seen the work upon which the staffs of bond houses and great banks and consultation services spend their lives, the reader should more highly value the expert, and so place his confidence and patronage with greater discrimination.

EDWARD D. JONES.

Ann Arbor, Mich.

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INVESTMENT

CHAPTER I

FARM MORTGAGES

1. *History and importance.*—It has been estimated recently by the Federal government that approximately $3,500,000,000 in farm mortgages upon the agricultural lands of the United States is in existence. Of this sum the life insurance companies hold $660,000,000, the savings banks and trust companies $542,000,000, and foreign investors $250,000,000, leaving over $2,000,000,000 as the share of American private investors. These figures are a sufficient answer to the question of how farm mortgages rank as a seasoned form of investment, and as to how satisfactory the terms of the investment with respect to yield and security are to the borrowing and investing public. Mr. C. M. Harger has said:

The farm mortgage is about the only security on the market which presents to the investor a concrete and definite picture of what is behind it. The average investor, who is not dealing in a large way with securities, likes to visualize his security. With the modern application for a loan before him, telling as it does the story of the applicant, and a full description of the land, he can form a mental representation of just what it is that stands behind the note. This

is the strongest appeal of the farm mortgage, and out of it grows a confidence that begets sound sleep.

In the eighties the railroads engineered an ill-considered rush to settle that portion of the prairie states where the rainfall averages twenty inches. This movement was financed, in part, by means of farm mortgages. The farm practice attempted was not suited to the locality, so that, when the crash which was inevitable occurred, a blow was given to the reputation of western farm mortgages from which it took a generation to recover. There can never be another abandonment of a great agricultural region such as this was, however, for the last American frontier has vanished, and the government can no longer give away free land of standard grade in the humid portion of the country. The long decline of commodity prices which ruined so many farmers ceased in the middle nineties, and since that time a rapid upward turn of prices has established agricultural prosperity upon a firm basis.

The Bank Examiner of Vermont reported in 1915 that in six years of service he had seen the farm mortgage holdings of Vermont banks increase from \$27,000,000 to \$43,000,000. In this period his duties called for an examination of these securities twice each year, and he found that the total loss did not exceed \$12,000, practically all of which was thru the dishonesty of one agent in the West.

2. *Investments for corporations.*—The life insur-

ance companies have long been wholesale buyers of farm mortgages. The estimated amount held in 1916 was $693,940,000, or about 20 per cent of all farm mortgages. The Ætna Life, the Massachusetts Mutual, the Northwestern, the Connecticut Mutual, the National of Vermont, the Mutual Benefit and the Union Central, have each over 25 per cent of their assets invested in this type of mortgage. The proportion of funds so invested by some of these companies is over 50 per cent. State banks uniformly place a portion of their reserves in farm mortgages; while for savings banks it is estimated that from 55 to 60 per cent of the assets are loaned on farm or city real estate. The Federal Reserve banks are authorized to invest in farm mortgages by section 24 of the Federal Reserve Act, which reads as follows:

> Any national banking association not situated in a central reserve city may make loans secured by improved and unencumbered farm land, situated within its Federal reserve district, but no such loan shall be made for a longer time than five years, nor for an amount exceeding fifty per centum of the actual value of the property offered as security. Any such bank may make such loans in an aggregate sum equal to twenty-five per centum of its capital and surplus or to one-third of its time deposits, and such banks may continue thereafter, as heretofore, to receive time deposits and to pay interest on the same.

The rules established by the Federal Reserve Board on February 10, 1915, form an excellent guide to be followed by the investor in judging of the value of such investments. They are:

National banks not located in central reserve cities may now legally make loans secured by mortgages on real estate within the following limitations:

1. The real estate security must be farm land.
2. It must be improved.
3. There must be no prior lien; in other words, the lending bank must hold an absolute first mortgage or deed of trust.
4. The property must be located in the same Federal Reserve District as the bank making the loan.
5. The amount of the loan must not exceed 50 per centum of the actual value of the property upon which it is secured.
6. The loan must be for a period not longer than five years.
7. The maximum amount of loans which a national bank may make on real estate under the terms of the Act shall be limited to an amount not in excess of one-third of its time deposits at the time of the making of the loan, and not in excess of one-third of its average time deposits during the preceding calendar year; provided, however, that if one-third of such time deposits as of the date of making the loan, or one-third of the average time deposits for the preceding calendar year, shall have amounted to less than one-fourth of the capital and surplus of the bank as of the date indicated; in such event the bank shall have authority to make loans upon real estate under the terms of the Act to the extent of one-fourth of the bank's capital and surplus as of the date of making the loan.

A further aid to this field of investment has just been provided thru provision by Congress for a system of Federal Land Banks, modeled after the Federal Reserve banks. These banks are to make first mortgage farm loans, not exceeding $10,000 in amount, to farmers who are occupying their farms. The applicants must subscribe 5 per cent of their loans

to the capital of the local farm loan bank. The loans must not exceed 50 per cent of the value of the land and 20 per cent of the insurable value of the improvements. These land banks will have authority to raise money by the sale of tax-exempt farm loan bonds, which are to be quasi-government bonds, described as "instrumentalities of government." It is yet too early to say how this plan will work out. There are apparently some difficulties that may arise. It is a question as to how the scheme will apply to regions where farming is very uncertain. Other doubtful points are the attempt to establish one interest rate, namely, 6 per cent for the entire country, and the allowance of but thirty days for agents to make good defaulted loans.

3. *Agricultural districts.*—If the investor desires to go outside of his own neighborhood in search of satisfactory mortgages, the first step will be to decide upon the agricultural districts which he considers safe and attractive for loaning purposes. East of the line of 20 inches of annual average rainfall there lies a broad belt of country extending from the Red River Valley on the north to the "black waxy soils" of Texas. This region does not entirely finance itself, and the distant investor is brought into touch with the opportunities that lie there thru mortgage brokers who offer a standardized service. West of this region the best loaning territory consists of distinct and circumscribed areas which enjoy special advantages of rainfall and topography in comparison

with the region surrounding them. Typical of such areas are the Blackfoot Valley, the Judith Basin, the Gallatin Valley, the Bitter Root Valley and the Yellowstone Valley in Montana. In Washington, conspicuously prosperous districts are the Palouse country, which extends into Idaho, the Big Bend country and the Walla Walla country. In Oregon there is the Willamette Valley, and in Idaho the Twin Falls district and the Idaho Falls district. Colorado presents the San Luis Valley and the Arkansas Valley. Utah contains the successful irrigation belt extending southward from Salt Lake City. California possesses the Sacramento Valley and the Imperial Valley.

4. *Geography of interest rates.*—Thruout New England, the Middle Atlantic states and the northeastern Middle States, including Iowa, mortgages purchased thru brokers may be expected to yield 5½ per cent. In Virginia, North Carolina and West Virginia, and the states around Iowa (Minnesota, Nebraska, Kansas and Missouri) the yield is 6 per cent. In the northern portion of the Great Plains (North Dakota and South Dakota) and the northern and middle South (Kentucky, Tennessee, Georgia, South Carolina and Oklahoma) from 6½ to 7 per cent is the average. Seven to 8 per cent may be had in Mississippi, Louisiana and Texas, in the Rocky Mountain states, such as Montana and Colorado, and on the Pacific Coast. Eight per cent and over is characteristic of the frontier southern

states, Arkansas, Florida and Alabama, and of the less developed West and Southwest, notably Wyoming, Utah, Nevada, Arizona and New Mexico. The higher interest rates are due to several causes. They naturally attend a loan on land situated in frontier regions, or in states which are uneven in agricultural worth so that safety in loaning demands careful discrimination and an intimate knowledge of agricultural geography. One-crop methods of farming and burdensome legal requirements are other factors which tend to make the loaning of money less secure and more involved, and which consequently tend toward a higher rate of interest.

5. *Judging a district.*—In judging a district the investor will desire to give attention principally to soil, the climate, the type of farming which prevails, the maturity of the region, the nationality, thrift and intelligence of the population, the transportation facilities and the homestead laws. By "maturity of the region" is meant the verdict of time as to whether the agricultural practice of the district is fitted to the physical conditions which prevail, so that the farmers' prosperity is likely to be permanent. This question is the all-important one in the dry-farming country. The growth of population of the region involved may be investigated for a series of years to ascertain whether an increase is the result of a normal, healthy growth or of a series of land booms. There are some advantages possessed by a section which is still in a pioneer condition. There the land values are

likely to be moderate. The majority of the population will be in the prime of life, and virile. The habits of living will be frugal. The surplus wealth of such a region will go back largely into the property pledged. Land will be cleared; fences, barns and houses will be built; and these activities will serve to increase the margin of safety. The country roads will be improving; the railways will be extending their branches; and the villages will be multiplying the number of mills and elevators. All of these improvements will tend to lift the price of farming land and so add to the value of the collateral.

6. *Use of agricultural statistics.*—The effect of annual fluctuations of heat and moisture upon agriculture can be discovered best by consulting the records of the State and Federal Departments of Agriculture.

The investor will find in the *Crop Reporter,* published by the United States Department of Agriculture, valuable information concerning the average yields of various crops and the farm prices obtained for them in the several states. By means of such information he can gauge the degree of fluctuation which occurs, and by multiplying the yield and unit prices by the number of acres in any given property can ascertain the income obtainable from different crops. The following table gives an illustration of the character of the information which is available:

CROP YIELD AND FARM PRICES IN SELECTED STATES

	1906	1907	1908	1909	1910	1911	1912	1913	1914	1915
WHEAT—Bushels per acre										
California ..	17.1	15.	14.6	13.	18.	18.	17.	14.	17.	16.
Colorado ...	32.5	29.	21.	21.2	22.3	18.9	24.2	21.	23.8	23.8
Montana ...	24.	28.8	24.2	24.2	22.	28.7	24.1	23.8	20.2	26.5
Oregon	19.9	23.4	20.8	16.3	22.1	21.	25.	21.	20.8	22.2
Washington .	20.8	25.9	18.	19.3	16.9	22.7	23.5	23.2	23.5	25.2
WHEAT—Cents per bushel on December 1st										
California ..	75	98	102	111	94	88	93	95	104	95
Colorado ...	65	78	88	93	82	84	73	78	87	80
Montana ...	64	81	86	87	86	77	64	66	91	78
Oregon	67	78	84	93	84	75	72	75	102	84
Washington .	62	75	82	93	78	71	68	73	100	82
CORN—Bushels per acre										
California ..	34.9	34.	32.	24.5	37.5	36.	37.	33.	36.	41.
Colorado ...	27.9	23.5	20.2	15.	19.9	14.	20.8	15.	23.	24.
Montana ...	23.4	22.5	23.4	28.8	23.	26.5	25.5	31.5	28.	28.
Oregon	27.6	27.5	27.8	26.1	25.5	28.5	31.5	28.5	30.	35.
Washington .	25.2	27.	25.5	21.7	28.	28.5	27.3	28.	27.	27.
CORN—Cents per bushel on December 1st										
California ..	67	85	88	91	80	90	85	88	87	88
Colorado ...	50	65	71	70	60	78	50	73	60	55
Montana ...	65	68	90	86	95	80	70	77	76	69
Oregon	65	74	77	80	80	80	75	70	82	82
Washington .	55	70	76	86	75	79	77	80	73	78
HAY—Tons per acre										
California ..	1.85	1.75	1.35	1.73	1.83	1.75	1.53	1.50	1.95	1.80
Colorado ...	2.50	2.70	2.50	2.13	2.00	2.00	2.19	2.05	2.40	2.20
Montana ...	1.85	1.70	2.00	2.00	1.40	2.00	1.90	1.80	2.50	2.00
Oregon	2.18	2.00	2.00	1.79	2.10	2.10	2.20	2.10	2.00	2.20
Washington .	2.38	2.10	2.25	1.88	2.10	2.40	2.20	2.30	2.20	2.30
HAY—Dollars per ton										
California ..	11.25	12.50	13.25	11.50	9.60	10.90	13.70	13.50	8.20	11.20
Colorado ...	9.50	9.50	8.75	10.00	10.80	9.30	8.70	10.00	7.40	7.60
Montana ...	8.90	9.50	8.35	10.00	12.50	10.00	8.30	9.60	8.70	7.50
Oregon	7.85	10.25	9.30	11.70	12.10	9.60	8.30	9.00	9.20	9.50
Washington .	11.00	15.00	11.00	14.00	15.70	12.00	10.10	10.90	11.00	10.80

7. *Soil survey studies.*—When the investor has chosen his district, if a soil survey has been made of it by the Bureau of Soils, he can secure from the Department of Agriculture a bulletin which will give him exhaustive information. To illustrate the material which these government soil surveys provide, a brief epitome is given here of the contents of the report of Oklahoma County, Oklahoma. The soil

survey itself is in documentary form, but is here presented in digest form for the sake of brevity.

General Description. Situated in the south central part of the state, bounded by Logan County on the north, by Lincoln and Pottawatomie Counties on the east, by Cleveland County on the south, and Canadian County on the north. Contains 720 square miles, or 416,800 acres.

Surface. Western two-fifths of county prairie land. A level and gently rolling country, broken by streams, depressions and valleys, which are from ten to one hundred feet deep. Elevation 1,200–1,250 feet. Highest, 1,300 feet. In east part of county, sandy section, which is rolling and hilly and cut by small streams. Elevation 1,100 feet. The surface is drained by the North Canadian River, Deep Fork, Little River and Chisholm Creek.

History of Settlement. County opened for settlement in 1889. Practically all desirable land settled by whites and growth steady and rapid. Chief cities are Oklahoma City and Edmond. Smaller towns are Luther, Harrah, Choctaw, Britton, Jones, Spencer. No town is more than nine miles from a railroad station.

Roads. The public roads system is extensive. There is a road on nearly every section line, and those thru the prairie are in good condition thruout the year, except in rainy weather. Stream crossings nearly all bridged. Railroads are: Atchison, Topeka and Santa Fe; Chicago, Rock Island and Pacific; St. Louis and San Francisco; Missouri, Kansas and Texas.

Climate. Healthful and pleasant. Favorable to a variety of crops. Summers long and hot—humidity low. Average rainfall—31 inches. Average temperature—59.5 degrees. Effects from droughts could be avoided and more attention given to cultivation of moisture thru deeper plowing. Average dates of first and last killing frost—November 5, April 8.

Description of Agriculture. History of Development since Settlement. Leading crops in prairie—wheat, corn,

oats, Kafir corn, prairie grasses, stock-raising. Leading crops of sand belt—cotton, peach growing. The methods of planting are described.

Acreage and Yield of Crops. Wheat, 60,048, yielding 908,490 bushels; corn, 541,111, yielding 1,475,350 bushels; cotton, 16,888, yielding 4,716 bales; oats, 14,223, yielding 497,720 bushels; prairie grass, 14,782, yielding 11,906 tons; 4,690 forage, yielding 9,368 tons; Kafir corn, 4,122, yielding 89,597 bushels; other crops—alfalfa, sorghum, broom corn, Irish potatoes, sweet potatoes, millet, Hungarian grasses, peanuts, castor-bean. The principal stock raised is beef cattle.

Farming Conditions. Little rotation of stock. Labor scarce and difficult to procure. Fifty-eight and eight-tenth per cent of farms operated by owners. Rent $1 to $3 per acre. Land prices—$20 per acre sandy territory; $10 to $80 per acre on prairie. Greatest opportunities—cattle, horse-raising, dairying.

Description of Soils. The soils of the region are classified and described in detail. The area occupied by each type of soil is indicated by a large colored map. In the text of the report the character of each soil is given, including the depth, color, quality, ability to withstand drought, drainage, subsoil, etc. The crops for which each soil is best fitted are enumerated, and the proper methods of handling each crop are indicated.

Miller fine sandy loam—cotton, corn, sorghum, Kafir corn. Some areas good for alfalfa. Rough, stony land—not cultivatable. Miller loam—heavy yields of corn, wheat, oats, cotton, sorghum and Kafir corn. Good for alfalfa. Miller prairie—not farmed to any extent. Good for wheat land and for Bermuda grass if drained. Wabash fine sand—limited areas cultivated. Crops not adapted to the soil. Peaches and grapes fairly successful. Opportunities for early trucking. Wabash fine sandy loam—good crops of corn, oats, wheat, Kafir corn, sorghum and cotton. Alfalfa will do well. Wabash silt loam—large yields of corn, oats, wheat and other products on a limited scale. Possibilities for alfalfa

and opportunities for dairy farming and stock-raising. Wabash clay—crops of corn and wheat, also suitable for Bermuda grass if drained. Not so desirable as the silt loam.

Each of the types of soil is taken up in turn and analyzed. The elements are given, and the character of the soil as to color, depth, rent, ability to withstand droughts, drainage and frost are enumerated.

The value to the investor of such an expert and unprejudiced survey of a loaning district is apparent. There have been issued some 1,200 of these bulletins. For example, there are 60 bulletins for Texas, 8 for Oklahoma, 23 for Kansas, and 32 for Nebraska. They are sold by the Superintendent of Documents at Washington at a nominal price.

The bulletins of the soil survey are ample for the investor's information about the physical conditions. In some cases the investigator may desire to know more about the general economic, social and political conditions. The following description of a loan field, prepared by Mr. F. H. Ertel, Manager of the Real Estate Mortgage Department of the *Financial World,* of New York, is offered as a sample of the information the investor should compile for himself.

The Imperial Valley of California

The Imperial Valley is in the southeast county of the state of California and covers the greater portion of Imperial County. A vast portion of Imperial Valley is in Mexico.

Without irrigation the Imperial Valley would be a barren desert but with a large portion of this territory now "under water" it has become a veritable Garden of Eden and the most dependable farming section of California.

The source of the water supply is the Colorado River, all

of the flow of which is amenable for the use of the Imperial Valley. Under present conditions the flow of the Colorado River is sufficient to irrigate 1,000,000 acres of land. At present the total area of Imperial irrigation covers 525,600 acres with 300,000 total acreage under cultivation.

The climate of the Imperial Valley is semi-tropical. The summers are extremely hot, averaging probably not less than 106 degrees, but the almost entire absence of rainfall renders the atmosphere very dry and the heat tolerable. During the months of July, August and September, the daily evaporation will average 4/10 of an inch, 12⅙ feet to the year.

The effect of this combination of elements—fertile soil, long, hot growing seasons and perfect control of an abundance of water is that prolific results are obtained in crops as to diversity and quantity. To illustrate: alfalfa is cut from six to ten times a year; dates are very successfully grown here; small grains do well; grapefruit is splendid; cotton flourishes; live stock and poultry do remarkably.

The diversity of Imperial Valley crops is best understood by presenting the official figures for 1913 since when the development of this section has progressed by leaps and bounds:

	Tons		*Tons*
Barley	11,330	Sheep	342
Cotton	1,920	Meal	930
Wheat	270	Beans	30
Potatoes	30	Hogs	545
Tomatoes	116	B. Corn	50
Cattle	1,100	Raisins	15
Corn	3,030	Cantaloupes (cars)	4,300
Hay	32,540	Butter	3,150
Honey	470	Watermelons (acres)	442
Onions	200	Asparagus (acres)	325

For these crops a ready market prevails as the railroad and superior road system of the Imperial Valley offer easy access to the markets of the world, both by rail and water.

Titles in Imperial County are to a larger extent than in

any other county of the state of California, "good titles." The titles are practically all based upon patent from the United States, there being no land grants or swamp lands—at least within the cultivated districts—and only a few school sections, thus eliminating many of the vexatious questions arising in the most of the western districts which acquired property from Mexico and Spain.

Land in the valley ranges from $75.00 to $250.00 per acre, but these cases are exceptional. The minimum of $75.00 per acre implies most unfavorable conditions as to amount leveled, improvements, etc.; while the maximum of, say, $250.00 implies extra good conditions as to quality of soil and degree of improvements.

The Imperial Valley, while relatively new, has passed its experimental state.

While until quite recently the prevailing rate of interest paid by the borrower was 8 per cent, the rapidly increasing demand for Imperial Valley loans has reduced the rate to 7 per cent, which enables the banks and loan agents of this greatly favored section to still offer non-residents 6 per cent net for farm loans.

REVIEW

Assuming that in tables of crop yield regularity from year to year is more important than amount of yield, how would you calculate the average yield, the maximum and the minimum departure from the average, and the average variation above and below average?

Take the yields of a series of years for a selected state and multiply them by the corresponding prices of that state to ascertain the income per acre. Calculate for the states in which you are interested the average income per acre, the percentage of extreme range of income per acre, and the average percentage range of income per acre.

Make an outline of the factors to be taken into consideration in estimating the desirable features for farm mortgage investment of any given district. Using this outline, make an analysis of any selected farm land district.

Secure copies of the short form and long form mortgage blanks standard for your state (purchasable from any stationer). Com-

pare these documents clause by clause, and draw off a tabulated statement of the differences. Which one, in your opinion, protects the lender the more thoroly?

What are the special marks of efficient farming generally recognized by farmers, loan agents, and bankers in your region? Are sub-soil plowing, tiling, the use of silos, and the growing of alfalfa among them? Compile a complete list of these tests, putting those things first which are considered most important.

CHAPTER II

FARM MORTGAGES (*Continued*)

1. *Choice of an agent.*—After making the selection of a loaning district, the next step for the investor to take is to choose a loan broker or agent. It has been estimated that there are about eight hundred recognized dealers in farm mortgages in the United States. There are two agencies which offer their services gratis to the investor in making his choice. One is the bank. The other is the magazine which carries financial advertising. In recent years the greater part of farm mortgage brokerage business has come into the hands of long established and thoroly organized concerns. It is probable that the bulk of the business is now handled by corporations, and the losses thru fault of the agent are very small. The forms of doing business are standardized and the service rendered to the lender is varied and reliable. A policy of candor marks all relations between agent, borrower and lender.

2. *Agent's service.*—The service rendered by the agent begins with the investigation of the property offered as security and the character of the applicant for the loan. It includes an examination of the title of the property and, in many cases, the giv-

ing of a title guarantee. It is not usual to find the mortgage itself guaranteed, altho banks and loan companies closely affiliated with banks are beginning to do so. It was unusual when the mortgages were negotiated almost exclusively by brokers to guarantee them, because for a broker with small capital to guarantee his mortgages would be to create an enormous contingent liability, out of all proportion to his assets. The privilege of investigating a loan, and of returning it within a year if the conditions are not found to be as represented, is usually extended. The insurance companies and banks which make the most systematic investigations rarely find it necessary to avail themselves of this privilege.

To illustrate the service offered by brokers, the following matters are quoted from the guarantee given by the Maxwell Investment Company of Kansas City, Missouri, to purchasers of their mortgages:

1. That the title to the mortgaged property is good in the mortgagor, and that the above mortgage is a first lien of record.

2. That all material facts stated in the examiner's report attached to copy of the application submitted are true.

3. That all papers in connection with the loan are made in due form and in accordance with the laws of the State of ....

4. That no loss shall occur by reason of non-payment of taxes or other liens.

5. That if a foreclosure becomes necessary, it shall be made without cost to the purchaser or .... assignee.

6. That this Company will attend to every detail in con-

nection with the loan until it is finally paid, and will collect and remit principal and interest to the owner of the mortgage without charge.

7. That if insurance upon buildings is required, this Company will cause it to be kept in force during the life of the loan.

8. That for a breach of any of the foregoing conditions, this Company binds itself to repurchase the Mortgage Note on demand, and pay for it, par and interest to date of repurchase.

3. *Agent's safeguards.*—A review of the safeguards that it is desirable for agents to establish for their own protection may be obtained by examining some of the covenants of the collateral deed of trust given by the Woodruff Trust Company of Joliet, Illinois, to the First Trust and Savings Bank of Chicago, to secure their collateral mortgage bonds.

Section 4. The Woodruff Trust Company covenants as follows, viz:

(a) That each mortgage note deposited with and pledged to the Trustee hereunder shall be secured by a mortgage or deed of trust upon real estate located in the State of Illinois, and that such mortgage or deed of trust shall be and constitute a first lien upon the real estate described therein and a first lien upon the whole and undivided fee and upon no lesser estate;

(b) That the real estate described in any such mortgage or deed of trust shall have been appraised by two separate appraisers to be selected by the Company and the appraised value of such real estate shall be at least double the amount of the indebtedness secured by such mortgage or deed of trust;

(c) That each such mortgage note shall have been approved by the Executive Committee of the Company as a safe and desirable investment;

(d) That each such mortgage or deed of trust shall contain provisions for the annual or semi-annual reduction of the principal of the indebtedness evidenced by the mortgage note or notes secured thereby;

(e) That the principal indebtedness secured to be paid by each such mortgage or deed of trust shall not exceed fifteen (15) per cent of the capital and surplus of the Company;

(f) That at the time of depositing with and pledging to the Trustee any such mortgage note the Company shall hold an abstract of title together with an opinion or certificate of a competent attorney, or a title guarantee policy of insurance, showing that the mortgage or deed of trust securing said mortgage note has been duly recorded and is a first lien upon the real estate therein described and upon the whole or undivided fee thereof and upon no lesser estate;

(g) That at the time of depositing with and pledging to the Trustee any such mortgage note the Company shall hold and shall thereafter continue to hold policies of insurance against loss or damage by fire on all buildings constituting a part of the real estate described in the mortgage or deed of trust securing such mortgage note, except in case the appraised value of the real estate exclusive of any buildings thereon shall be at least double the amount of the indebtedness secured thereby.

(h) That the aggregate amount of the principal of all bonds issued, certified, and outstanding hereunder shall not at any time exceed fifteen (15) times the capital and surplus of the Company.

4. *Agent's commissions.*—The agent receives for his service the difference between the interest rate plus the special charges paid by the borrower and the interest netted by the investor. In the older and better settled agricultural regions the agent's commission is usually one per cent. In the West, where long trips over bad roads have to be made in order to

examine properties, and where renewals have not yet materially reduced the expense of preparing abstracts, the standard commission for first-class service is two per cent.

5. *Choice of a borrower.*—Thru the agent the lender finally comes into contact with specific loan propositions. The tests of a conservative mortgage have been listed by Mr. H. M. Hanson, Secretary of the Farm Mortgage Bankers' Association of America, as follows:

1. The individual farm securing the mortgage should be well improved and profitably productive.
2. Preferably, it should be occupied by its owner or, if occupied by a tenant, the owner should reside near enough to the farm to give its operation his reasonable attention.
3. The farm should be conservatively appraised at a valuation that compares favorably with the neighborhood valuation of productive farms.
4. The appraised valuation of the farm should be at least twice the amount of the debt represented in the first mortgage.
5. The abstract prepared by experts and duly certified should disclose the title indisputably lodged in the owner of the land, and that the mortgage exhibited is the first valid lien against the land.
6. The owner should possess good farming ability and a good reputation as a debt-payer.

Vacant lands are undesirable security. They may, however, be desirable when they constitute a reserve for expansion, held while the farmer clears his ground and develops his farm to a unit of normal size for the type of farming in which he is engaged. Approved uses for borrowed money are to make perma-

nent improvements, to buy additional and adjoining land, and to pay off an existing debt. The Federal Land Banks are restricted to loans made for the following purposes:

1. To purchase land for agricultural purposes.
2. To purchase equipment, fertilizer and live stock for the operation of the mortgaged farm.
3. To provide buildings, and to effect improvement of farm lands.
4. To pay debts existing at the time of the organization of the first national farm loan association within the country.

Among the improvements existing, or to be provided, fencing is not to be ignored, for it permits stock to be handled and allows a proper system of rotation of crops. Without fences to separate the different fields into independent units only a poor type of farming can be carried on.

6. *Agent's circulars and reports.*—The general circular sent out by an agent should convey a concise description of the loan conditions. As typical of the information usually furnished, one of the descriptions of Walter L. Williamson, of Lisbon, N. Dakota, is reproduced.

NEWMAN

$1,500.00 .... County.

NW 1/4-29-138-67. Mr. Newman bought this land about seven or eight years ago, and has improved it with a good, comfortable set of buildings, costing in the neighborhood of $1,200.00 or $1,500.00. There are forty acres under cultivation and one hundred twenty acres used for meadow and pasture. He is owning four other quarters of land in the same neighborhood, which all are more or less improved and

APPLICATION FOR FIRST MORTGAGE FARM LOAN

I, the undersigned, *John Doe*, of ——, Postoffice Route No. —— County of—*Johnston*,— State of Oklahoma, do hereby appoint THE F. B. COLLINS INVESTMENT COMPANY, of Oklahoma City, Oklahoma, my agent, to procure for me a loan of One Thousand and no/100 —— Dollars, *$1000.00* for the term of—*7*— years, with interest at —*6*— per cent per annum, to be paid —— annually, secured by first mortgage or trust deed upon the following described real estate in the County of JOHNSTON, State of OKLAHOMA, to-wit: *The North Half of the South West quarter, Sec. 28* in —— Twp. *4 S*, Range *4 E.I.M.*

Applicants are requested to answer EACH of the following questions:

1 Character and Description of Land	Acres upland, - - - *80*	Acres in cultivation, - - - - - *65*
	Acres valley land, - ——	Wild grass or pasture, - - - - *15*
		How many acres of this pasture can be profitably cultivated? - - - *10*
	Acres bottom land, - ——	Acres in orchard, - - - - - ——
		Acres in timber——What kind? ——
	Total number of acres, - *80*	Acres sandy, gravelly or broken - ——

Acres fenced—*80*—with (describe kind of fencing)—*wire & posts*—condition—*good*—.
Is the land permanently watered? *Yes.* How? *Pool.*
How many acres subject to overflow? *None.*
General character of the soil is *sandy loam.*
Years this land has been under cultivation *6 years.*
I value *80* acres of up- Land @ per acre——
I value——acres of——Land @ per acre *$35.00*
I value——acres of——Land @ per acre——
or total land value, (Exclusive of Improvements) *$2800.00*

2 Buildings and Insurance	Dwelling size———rooms———Material———built during year——— original cost $ —————— Barns, size——————Material——————built————original cost $———— Other buildings —————————————————— —————————————— original cost $———— I value the entire improvements located on above described land at this time at $—————— Total value of land and improvements —————————— $ ———— Buildings (not contents) insured in (name companies), —————————— ————for $——————Policies will be assigned and delivered mortgagee. No labor has been performed or material furnished in the erection, alteration or repair of any building on this property, nor has any contract been made for such labor or material within six months, except —————————————— ——————————————————
3 Products	Crops must be given in bushels or tons and not by acreage. There was raised on above described land during year 19*15*, Corn—*30*—acres—*600*—bu. Wheat ———acres———bu. Oats———acres———bu. Hay———acres———tons. Alfalfa———acres ———tons. Cotton—*35*—acres—*10*—bales. Milo Maize———acres———bu. Broom Corn——— acres———tons. Kafir corn———acres———bu.——————— acres ————
4 Stock and Implements owned by borrower	Horses—*2*— Mules ——— Hogs—*5*— Cows—*3*— Other cattle ——————————— } Valued at $—*600.00*—. Farming Implements owned valued at $—*200.00*—.—————————— Are there any chattel mortgages on any of the above described property or growing crops?—*No.*—

5 Occupation	Property now occupied by (owner or tenant)—*Owner.*—at a rental of —— Are the buildings now occupied?—— If not rented, what would be considered a nominal cash rental per year $—*3.50—per acre*—. (If rented, state terms and conditions of lease or rental agreement.) What is the occupation of borrower?—*Farming.*—
6 Market and Neighbor- hood	This farm is located—¼—miles in a—*Southwest*—direction from —— Population—*1000*—, Name of railroad—*C. R. I. & P. R. R.*— Distance from school-house—½ *mile*—, from market town—¼ *mile.*— Nationality of Community—*American.*—General condition—*good.*—. Principal crops raised in this vicinity—*Corn, Cotton and Grain.*— Improved land selling at $—*25. to 65.*—per acre. Unimproved at $—*15. to 25.*—

It is agreed that this loan may be written with two mortgages, one of which may be a commission mortgage. It is further agreed that if all statements herein are not true, or if applicant fails to accept the loan if granted, applicant will pay all expenses incurred and an amount equal to one-half the commission charged for making said loan.

Privilege to pay $—*100.00*—or any multiple thereof, or the whole amount, at the maturity of any interest payment on and after—*2 years*—, by giving sixty days' notice.

7 General	How long have you lived on this farm?—*3*—years. Year purchased—*1912*—. Price paid, Total $—*1500*—of which $—*900*—was cash and $—*600*—Mortgage or Contract —— Since purchased I have made the following improvements, viz:—*Fenced entire tract and cleared 10 A.* Do you draw a pension?—*No.*—How much per month? $ —— For what purpose is this loan desired?—*to pay bal. purchase price and improve.*— To whom did you give this application?—*F. B. Collins Inv. Co.*—.

8

Statement

I do hereby state, under oath, that I am in peaceable possession of the premises above described; that my title thereto has never to my knowledge been questioned nor disputed; that there are no judgments unsatisfied; unpaid taxes or suits pending against me in any Court of Record of this state or the United States; that there are no unrecorded deeds or mortgages, and that I am neither principal nor surety on any bond which is by law a lien upon said premises except such as are shown by the abstract submitted and which I hereby authorize you to pay and discharge.

The only encumbrance against this land is a—*Mortgage*—of \$—*600*—held by—*Peter Robinson*—due———, upon which there is \$—*no*—past due interest.

I own other Real Estate to the value of \$—*12,000*—, located—*Johnston Co.*— with \$—*2100.00* encumbrance thereon. My total liabilities at this time do not exceed \$—*2100*—.

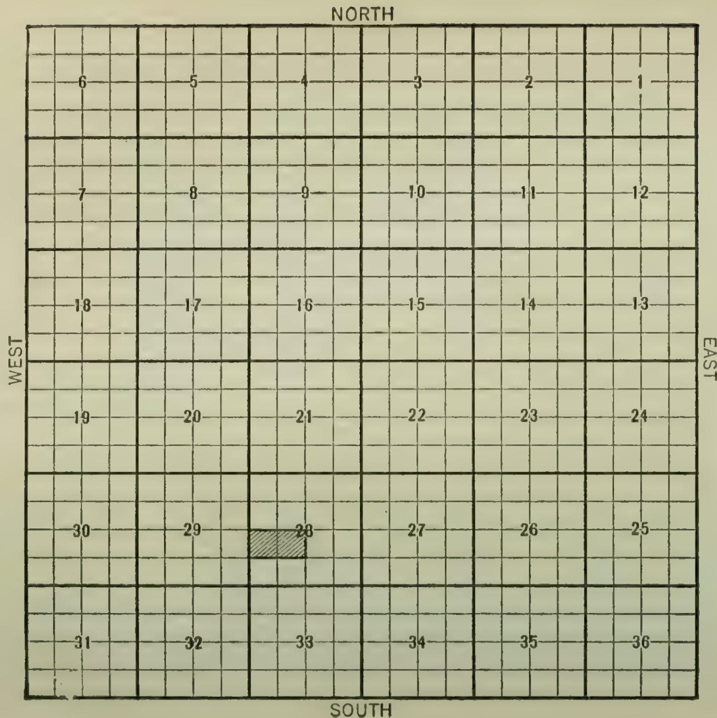
I am—*a*—married man, have—*not*—been divorced, am—*37*—years old, my wife's name is—*Jane D.*,—age—*35*—, we have—*3*—children living at home and—*4*—children living elsewhere.

I have answered the above questions, and make these statements for the purpose of securing said loan, and solemnly declare the same to be true in every particular, and I have suppressed no information relative to the property offered as security which would adversely affect its value. I do hereby appoint The F. B. Collins Investment Co. my attorney, irrevocably, for me and in my name, place and stead to procure this loan from any person or corporation; principal and interest payable at such place as lender may direct; my said Attorney being hereby authorized by me to receive and transmit my funds for the payment of interest or of principal on said loan as it may from any cause from time to time become due and payable, and I further authorize my said Attorney to procure for me Fire Insurance as herein agreed to be furnished, construing this authority as sufficient application for such insurance but in no wise obligating my said Attorney or the legal holder of my note to assume any responsibility for any loss resulting from failure to renew, cancellation from vacancy, or the transfer of the property or from any cause whatever, all of which responsibility I hereby expressly assume, and I hereby ratify and confirm all that my said Attorney may do in the premises, as fully as if done by myself.

IN WITNESS WHEREOF, I have hereunto set my hand and seal this—*17th*—day of—*April*—, 1916.

(Signature of applicant)————*John Doe*————(Seal)

————————(Seal)



Township No.—*4 S* Range No. *4*
E. I. M.—

THIS DIAGRAM MUST BE COMPLETED OR LOAN WILL NOT BE CONSIDERED.

Distinctly Indicate the Section to be Mortgaged and Show Location of Nearest Towns, Railroads, Lakes or Rivers, if any.

EXAMINER'S STATEMENT

I hereby certify that on the—*23rd*—day of—*March*—, A.D., 1916, for the purpose of ascertaining its value and desirability as security for a loan, and for verifying each and every statement made herein, I made a careful personal examination of the farm of—*John Doe*—located as described in the foregoing application and found that:—

—*75*—acres of said land can be profitably cultivated.	———acres are now in broom corn.	—*15*—acres are now in wild grass or pasture.
65—acres are now under cultivation.	———acres are now in kafir corn.	———acres are now in maize.
———acres are now in wheat.	———acres are now in other crops.	———acres are now in alfalfa.
———acres are now in corn.	———acres are now in oats.	—*65*—acres are now in *prep. for 1916.*
	———acres are now in cotton.	
	———acres are now in tame grass.	

The fences are of—*wire and posts*—and are in—*good*—condition.
The soil is (describe kind)—*sandy loam*—and is of—*good*—quality.
The surface is—*level to sloping*—.
(State whether level, undulating, rolling, rough, or broken).
All the statements contained in said application are true, with the following exceptions:—*All true*—.
Cultivated land in the neighborhood of said farm is worth $—*20. to 50.*—per acre. Uncultivated $—*10. to 25.*—
A fair valuation of the land is—*65*—acres cultivated $—*2200.00*—, —*10*—acres tillable but not broken, $—*300.00*—, —*5*—acres not tillable, $—*100.00*—House value, $———, barn, $———: other buildings, $————Total, $—*2600.00*—.

If offered at Forced Sale this property will certainly realize not less than $—*2000.00*—.

State character of neighborhood and general conditions of surrounding farms:
—*Located in well improved section, 1/4 mile from market. Good roads, schools, etc., general conditions good.*—

This property is—*directly*—situated on a well traveled public highway.

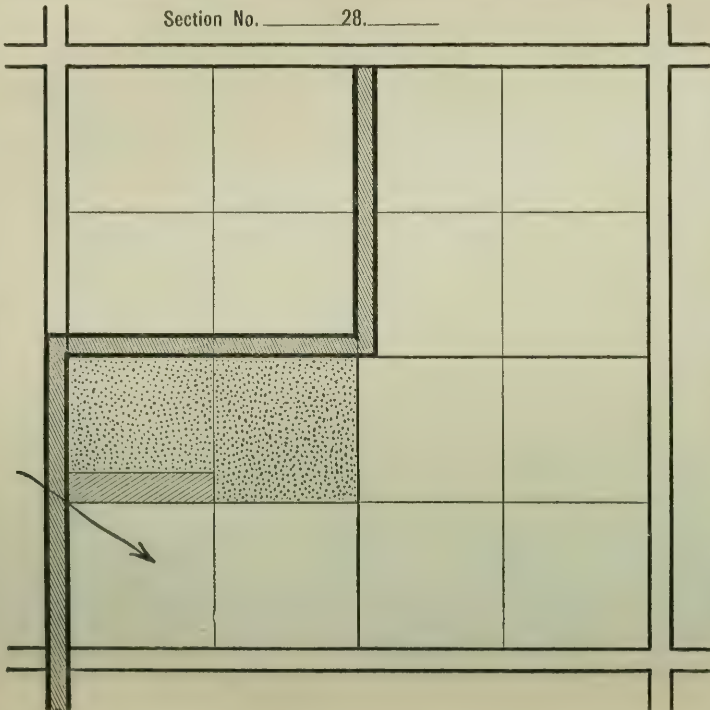
The applicant is a man of—*good*—character and credit, and is said to meet his obligations—*promptly*—; he is———temperate and moral; his farm shows—*good*—management and is in—*good*—condition; he has lived on this farm—*3*—years, and has———been making money; he intends to use the money to—*pay bal. of purchase price and improve.*—and, in addition to this loan, will owe $—*don't know*—. He is in—*good*—health.

I find from investigation that the applicant is not obtaining this loan to pay interest on loans which he now has, or to pay arrears of taxes.

From the character and condition of said farm, and the credit of the applicant, I believe that a loan of $—*1000.00*—on said farm, with $—*no*—insurance on the buildings, would be—*well*—secured, and that such loan would prove—*a good investment*—.

The following is a true plat of said property and shows the exact location of the buildings thereon, and the relative location and distribution of crops or uncultivated land.

Section No. 28.



1. Cultivated Land
2. Tame Grass
3. Native Grass Pasture
4. Natural Grass Meadow
5. Orchard
6. Timber
7. Creeks
8. Draws
9. Dwelling
10. Barns
11. Sheds
12. Tenant House
13. Public Highway

T. M. Miller.
EXAMINER,

STATEMENT OF BORROWER'S AGENT

Having carefully examined the application, the Examiner's report, and other papers relating to this Loan, and with the knowledge we have of the locality in which the property mortgaged is situated, and of the standing, integrity and ability of the Examiner, we fully recommend the loan of—*One Thousand and no/100*—Dollars, and hereby agree with the purchaser of this Loan that we will without charge or expense to the purchaser or assigns transmit the borrower's funds, both principal and interest, in accordance with the provisions made by the borrower in the above application; such remittance to be made promptly on date received in New York Exchange, also agreeing to have made each year an examination of the County Tax Books, and to report to the purchaser the condition of taxes and insurance on this property; also promising our assistance in securing the payment of principal, interest and taxes and the renewal of fire insurance by the borrower in accordance with the borrower's agreement and further, provided, that if upon examination of the security by the purchaser or the purchaser's inspector or representative within one year from the date of such purchase (date remitted) the Land, Buildings or Borrower are found to be otherwise than as represented in within application, or if, in the judgment of said purchaser, his representative or inspector, the Loan or title is unsatisfactory for any cause, we will, upon demand in writing, redeem said Loan in cash at face amount, and accrued interest.

THE F. B. COLLINS INVESTMENT COMPANY,

LOAN NO. ———. Per——————

under cultivation, worth at least $12,000 or $13,000 and against which he is owing a balance of $5,000. He is a progressive farmer having twenty head of horses, eleven head of cattle and all stock and machinery necessary to farm, valued at least $4,000 and clear of incumbrance. The moneys are being particularly borrowed to pay a few outstanding obligations and the purchase of more stock.

The information may be given in the form of a blank.

A very complete type of report is that used by the Collins Investment Company of Oklahoma City, Oklahoma. Similar blanks are used by the Reynolds Mortgage Company of Fort Worth, Texas, by Charles Baird of Kansas City, Missouri, and by many others.

7. *Term.*—The term of farm mortgages ranges from three to ten years, the usual period being five years. In the Southern states the term is short, running from two to three years. In the Pacific states it is usually four years, altho it is sometimes less. There is a sentiment among students of rural credit in favor of longer terms, coupled with various plans of instalment payment.

8. *Legal and technical points.*—A number of technical points are raised by the questions of an investor, with appropriate answers, published by Joseph E. Thomas & Company, Incorporated, mortgage brokers of Seattle, Washington.

Q. When you sell a mortgage is it necessary to make the transfer by formal assignment, and does this have to go on record?

A. Yes.

Q. If the assignment is of record, does it make the mortgage subject to personal tax in the State of Washington?

A. There is no tax in the State of Washington on mortgages or other evidences of indebtedness.

Q. What is the method of foreclosure and how long is the equity of redemption?

A. By suit in Superior Court, and property may be redeemed within one year from date of sheriff's sale.

Q. You say that during the period of foreclosure a receiver can be secured and the rents retained to apply on the debt. Is this possible where the property is a homestead?

A. No, unless the homestead right has been waived in the mortgage.

Q. What are your homestead laws and can the homestead be waived in the mortgage conveyance?

A. $2,000 exemption. Yes.

Q. Are your loans all on completed buildings, and if not do you guarantee completion free from mechanic's liens?

A. Loans offered are, in the main, on completed properties, but where they are not we guarantee completion free from mechanic's liens.

Q. Are any of your titles guaranteed or are all of them simply attorney's opinions?

A. We give the prospective purchaser of our mortgages his option. Many clients are satisfied with attorney's opinions, and this is less expensive.

Q. If the properties are leased, do you take assignments of the leases?

A. No. Property must be free-hold.

Q. The language of your mortgage seems to indicate that the borrowers are permitted to make partial payments without notice. Is this correct? Usually the borrowers are required to give sixty days' previous notice.

A. Borrowers pay a bonus of three months' advance on all sums paid prior to that date.

Q. In remitting principal and interest do you do so in New York draft?

A. Yes, without expense to the mortgagee.

Q. Do you create a market for your mortgages by re-purchasing them from your clients at a reasonable commission?

A. Yes, we frequently re-purchase loans, the mortgagee either paying us a reasonable commission or waiving interest on the amount since the last interest payment.

9. *Interest payment.*—There is likely to be an occasional delay in interest payment unless the agent undertakes to make advances. The experience of the Pearsons-Taft Land Credit Company of Chicago on this question has been carefully compiled. They have found that, on the average, $3,000 of interest will be paid as follows:

$1,381.00	before due.
775.40	at maturity.
406.70	between the 3rd and 10th day after due.
145.70	between the 10th and 20th day after due.
218.80	between the 20th and 90th day after due.
69.90	would run over 90 days but would eventually be collected without foreclosure proceedings.
7.52	would be collected by legal process, being paid before date for the sale of property arrived.
2.83	would be collected by legal process as a part of the proceeds of land sold to cover costs.
.15	would remain unpaid and unsettled.
$3,000.00	Total

10. *Prepayment.*—The privilege of paying off all or a portion of a mortgage debt at any interest period is generally demanded by farm borrowers. As an illustration of the extent to which this privilege is utilized the Pearsons-Taft Land Credit Company re-

port that during the period from November 15th, 1905, to and including March 15th, 1906, they received payment of maturing loans to the amount of $335,-957.78, while during the same period they received prepayment of loans, either in part or whole, aggregating $386,108.17. The prepayment privilege usually means that if interest rates rise the borrower will let the mortgage stand, but if they fall he will pay off all or a part of the principal.

11. *Foreclosure.*—The remedy of the investor upon default is a suit in the county where the property is located. The resulting judgment will enable the creditor to secure payment thru sale or to obtain title by deed, after the equities of redemption have expired, if the homestead laws do not interfere. Foreclosures are rare, however. They usually result from local crop failure, or from the death of the bread-winner. The Capital Trust and Savings Bank of St. Paul, Minnesota, have stated that in October, 1915, out of a total of about $5,000,000 of loans outstanding, their foreclosure account amounted to only $12,000. A further significant fact was the statement that it was unlikely that any of the property then under foreclosure would actually go to sale.

12. *Equities of redemption.*—A number of states, including Alabama, Kansas, Illinois, Minnesota and North Dakota, have passed laws which provide for a period varying from six months to two years after the foreclosure, during which borrowers may occupy their property and redeem it by paying the accumu-

lated charges. These laws make it practically impossible for mortgagees to sell their interest in foreclosure proceedings before the end of the redemption period. The delay caused and the danger that the occupant may wreck the improvements on the property during the redemption period has resulted in higher interest rates than would otherwise prevail.

Furthermore in these states there is a growing practice of counting out improvements, in valuing property for borrowing purposes. The futility of these laws is shown by the fact that few borrowers redeem their property under them. In some states the equities of redemption can be waived by a clause in the mortgage giving an absolute power of sale to the mortgagee, but in most states such a waiver is null and void. In states where waivers are forbidden, mortgage brokers often undertake to buy back their mortgages if foreclosure becomes necessary.

13. *Other laws.*—Another law found in some states which raises obstacles for the investor is an appraisement law which provides that a property cannot be foreclosed until a local tribunal has fixed a value for it, and unless that valuation or more is bid by a purchaser at the sale. In these states, of which Texas is an example, the lender should operate only thru agents who are expert in the intricacies of the state homestead law.

An investor will, of course, find his net yield influenced greatly by the tax laws. To illustrate the effect of improved tax legislation on mortgage yield

the case of the State of Massachusetts may be cited. Prior to 1916 the State taxed mortgages held outside the state from $20 to $23.50 per thousand, depending upon the local rates. This tax amounted to from 33.3 per cent to 39.17 per cent of the annual yield and reduced the rate of income to 4 per cent and less. The income tax law of 1916 provides a tax of 6 per cent on the income from farm mortgages so that a 6 per cent investment now gives a yield of 5.64 per cent.

14. *Documents.*—The investor should receive a note (usually with coupons for interest) and a mortgage properly assigned. If, instead of a single mortgage, a trust deed is used, to secure a series of notes, the deed will be deposited with a trustee, usually a bank or trust company. The investor should also receive an abstract of title, accompanied by the opinion of a competent attorney, that the property is clear of all prior liens of every description. If this is not given he should receive a certificate guaranteeing the title by parties financially responsible. If buildings form a material part of the security, he should receive insurance policies with proper mortgage clauses attached, or else a trustee's receipt for such policies. In the place of the actual policy or a trustee's receipt, sometimes it is sufficient to have a guarantee from responsible parties, to keep the premises insured.

The standard service of mortgage dealers during the life of a loan comprises the collection of interest and of principal, when due, without cost or deduction.

The brokers also see that insurance is kept in force, and that all taxes and assessments are paid.

15. *Farm mortgage bonds.*—The farm mortgage suffers from a number of limitations. It is for a specific sum, often an amount too large for the investor to handle conveniently. The interest is often payable only annually and it is often delayed for a few days, even weeks. The term of the loan is short. At the end of it the question of change of interest rate is very apt to come up. Prepayment in small amounts or in full may be expected at any time. The security cannot be listed, therefore sale is only by private negotiation, or thru the courtesy of the dealer.[1]

To remedy these defects, bonds have been brought out which are secured by the deposit of a collection of mortgages with a trustee. By this device interest can be paid semi-annually, and the interest rate made permanent for a number of years. Individual farmers may pay off their indebtedness as they choose without inconveniencing the investor. The bonds remain undisturbed, for new securities are deposited with the trustee as the old ones are paid off. Bonds are usually issued in round-numbered aggregates, and they are sometimes listed on an exchange to facilitate their sale. In this way they become a more acceptable

[1] Farm mortgages differ in another important respect from railroad and industrial bonds. Lacking a general market, differences in risk cannot be so accurately determined. Where they exist they find expression in a lower or higher interest rate, rather than in the price of the mortgage. The investor is not concerned with any problem of allowing for the appreciation of his investment.

collateral for bank loans. Such bonds, varying somewhat in the details of issue, are offered by the Woodruff Trust Company of Joliet, Illinois, the Pearsons-Taft Land Credit Company of Chicago, the Bankers' Trust Company of Houston, Texas, and a number of other corporations.

The statement of the trustee of the Bankers' Trust Company collateral trust bonds is as follows:

DEPOSITORY OF COLLATERAL

This is to Certify, that there have been deposited with this bank, as trustee, by the Bankers' Trust Company, Houston, Texas, notes and bonds to an amount equal to the outstanding bonds of this series, secured by first mortgages on real estate, and accompanied by an appraisement as to the value of the property, and the opinion of the Company's attorneys approving the title thereto.

Said notes or bonds are to be held by this bank as collateral security to the within series of Collateral Trust Bonds, numbered from ...... to ...... inclusive, each for the sum of One Hundred Dollars, issued by said Bankers' Trust Company, and are to be surrendered only upon satisfactory proof of the final payment and cancellation of all bonds of said series, or upon substitution of other notes or bonds similarly secured and of equal value in the opinion of this bank.

If default is made in the payment of this bond according to its terms, upon written request by the legal holder, sale shall be made of the collateral held by the Trustee, as under execution, subject to the provisions of Article 570, Revised Civil Statutes of Texas, and the proceeds applied to the payment of all bonds of this series then outstanding.

Union National Bank.

By ....

Cashier.

In some states, including Indiana, Kansas, Utah, Wisconsin, and Idaho, the State Treasurer is authorized to act as trustee. Where this is the case he receives whatever mortgages, offered by savings banks or trust companies having savings departments, may be approved by the State Bank Commissioner as being legal for the investment of savings deposits. For mortgages so received, the treasurer is authorized to certify an equivalent amount of mortgage bonds. The bonds are usually issued in series of $100,000, and are offered to the investor by the depositing bank. The usual par value of the bond is $1,000, but to meet the convenience of small investors, issues of $500 and $100 are sometimes made.

REVIEW

Send to several farm mortgage dealers, whose advertisements appear in various periodicals for samples of their papers, particularly their information blanks and traveling inspectors' reports. Compare these to determine which are the most satisfactory as to services and guarantees offered by the agent.

Are there equity of redemption laws in your state; if so, what are they?

What are the homestead exemptions of your state?

Does your state have an appraisement law; if so, what is it, and how does it work?

Is the State Treasurer of your state authorized by law to hold the mortgages deposited by banks or trust companies as collateral to secure issues of farm mortgage bonds? If so, who is charged with the duty of passing upon the quality of this collateral, and exactly what is the responsibility imposed upon such officer by law?

CHAPTER III

URBAN REAL ESTATE

1. *Structure of a city.*—A city is an organism that has differentiated but logically related parts, each of which is devoted to a distinct and separate use. The function of the whole organism is to promote the convenience and comfort of the inhabitants. It is the business of the investor who operates on his own responsibility to understand the relationship of the parts. Every city of considerable size possesses a mercantile center, a transportation center, a number of residence districts, and a group of more or less closely connected manufacturing areas. A large city develops still greater regional specialization; it divides merchandising into wholesale and retail, and subdivides residence sections in detail according to the race and wealth of the members. Such a city will possess a theater district, a hotel district, an office district, and perhaps also a civic center.

The mercantile section normally belongs at the center of the populated area, since this location is most accessible to the majority of shoppers. The railroad routes usually run thru the outskirts for several reasons. In the first place, the purchase of right of way thru the center would be expensive. More-

over, the movement of trains thru a densely populated area would necessarily be slow and would constitute no inconsiderable menace to the inhabitants; it would also be a nuisance likely to cause a shifting of other utilities. Adjoining the right of way of the railroads lie areas into which railway spurs can be built, and which are therefore suitable for heavy manufacturing. Between the retail and the transportation section is a commercially active region. It has no spurs, because of its urban character. It is suitable for wholesale trade, warehousing, and light manufacturing.

When the dominant business interests have been provided with locations, the residence sections fall naturally into place. The homes and tenements of the less well-to-do classes occupy the sections between the various business areas, and form a close ring around them. These people endure the discomfort of the noise and dust for the sake of being close to their places of employment. The finer residence sections stretch away toward the country, and especially toward high and rolling ground. They seek the clean air of the windward side and the sunshine of the south side.

The precise relation of sections to one another in any individual case will be determined by the topography, the presence or absence of a river, lake or harbor, the method of plotting, the location of streets suitable for use as thorofares, and the enterprise of the property-holders.

2. *Mercantile section.*—The highest lot values in the city are found in the mercantile section. The demand among merchants to secure favorable location in this section creates high values in the center. The superior accessibility of certain central corners will raise the values there to two or three times the average of the whole district. Mr. R. M. Hurd has estimated that the poorest locations utilized by shops in small cities will ordinarily be worth $50 to $75 per front foot, while in cities of 50,000 population the values may average $600 to $800 for the best locations. In cities of 200,000 population the maximum may be $2,000 per front foot.

Influences that tend to create high values in a mercantile section are central location, "corner influence," a reasonably wide street, level ground, and the presence nearby of institutions depending upon or responsible for density of traffic. On the other hand, adverse influences are vacant buildings, parks, buildings used for purposes other than those to which the district is devoted, dilapidated and unsightly structures, buildings in process of construction, and grades sufficient to add noticeably to the difficulty of movement—in short, anything that interferes with the homogeneity of the district.

3. *Manufacturing section.*—Standards of value are not so clearly definable for manufacturing locations as for retail and residence sections. The ground is transferred largely in plots of unequal size, so that lot-unit valuations are inapplicable. The market is

not active. The vacant property is commonly on the outskirts, where values are determined by speculative prospects, rather than by the sober capitalization of demonstrated income-producing power.

Speculative value varies with the vividness of the holder's imagination and with the state of local excitement created by recent transactions. Another cause of uncertain valuation is the wide range in the kinds of real estate that are involved; these include various types, from the central-district property—in plotted areas, with paved streets, trackage facilities, and fire, water and police services—to distant swamp land which must be filled before buildings can be erected upon it. This variety makes the definition of types and the calculation of standards of value a difficult task.

Manufacturing sites in cities of from 20,000 to 100,000 population are worth approximately from \$500 to \$2,000 an acre, without trackage, while with trackage they are worth from \$1,000 to \$25,000.

4. *Residential section.*—In regard to land values it is interesting to note the following statistics compiled by Mr. Hurd:

> In the outskirts of the smaller cities plotted land runs as low as \$2 to \$4 per front foot, and there are built up mechanics' sections, with street-car accommodations, less than a mile from the center of cities of 30,000 population, where land sells at but \$5 per front foot. From this figure, land for detached residences grades upward more in proportion to the class of people utilizing it than in proportion to the size of the city, to land worth \$20 to \$30 per

front foot for the residences of small shopkeepers and clerks, and \$40 to \$75 for the more fashionable residences in cities of 75,000 population and under. The best residence land in cities of 100,000 to 200,000 population runs from \$75 to \$150 per front foot; in cities of 200,000 population to 400,000, from \$300 to \$500 per front foot.

The value of a residential site depends partly upon whether the streets are laid out so as to form a park-like area, or whether the ordinary American checker-board plan has been adopted, irrespective of the natural characteristics of the site. It depends also upon the topography and whether or not there are trees; upon the availability of the city services and the public utilities, and the class of people who have settled nearby. The presence in a residence section of schools, stores, factories or vacant lots, disfigured by billboards always lowers the value of the immediately adjacent property. Values near the outskirts of a city are proverbially insecure, since they are partly speculative. They are liable to be disturbed by the advent of nuisances or of inappropriate developments. High-class residence districts located at a moderate distance from the center of the city now suffer a two-fold handicap. They are not far enough out for automobile owners; they are too far out for apartment dwellers. Such localities are more seriously affected by hard times than less pretentious sections.

5. *Chances incident to growth.*—In a growing city one district will often crowd upon and displace another. The mercantile section sometimes encroaches upon the surrounding residential areas. The rear-

rangements that take place alter the nature of all intermediate or boundary areas. Topography and established improvements, such as railways and factories, seldom permit a city to expand evenly in all directions, and unequal growth in certain directions will mean that the mercantile district will no longer be in the center of the city. It will travel slowly to keep as nearly as possible at the center. On the front, toward the chief residence section, the advance will be marked by new and attractive specialty shops. On the rear side the evacuated district will be marked by vacant shops, buildings in a state of disrepair, and a miscellaneous collection of small manufacturing establishments, second-hand stores and cheap restaurants.

In all districts in which change of function takes place, the value of improvements falls rapidly by reason of inappropriateness. If the change of function is retrograde in the economic scale the ground values may also decline, even in a growing city. The value of any location in such a city is always subject to fluctuation. This is one reason why real estate loans should, as a rule, be of short duration. If the term be set at five years, a resurvey at expiration will show whether or not any change which might be dangerous has taken place in the security. If the conditions are found to be still excellent, the loan may be safely renewed.

6. *Lot valuation.*—The market for real estate is

not standardized; it is one in which each transaction is a unique adjustment of the needs of the individual buyer to those of the individual seller. As to the valuation of land, no two pieces of ground are exactly alike, and consequently it is a difficult matter to standardize values. Even the activities of professional real estate agents, organized into a real estate board, do not give to the valuation of land that precision attained in the valuation of goods that are all of the same kind. For the perfection of any local real estate market two steps are essential. First, the problem of the valuation of a location should be reduced to the simplest possible form by the establishment of a theoretical unit consisting of an inside lot of given dimensions; this unit should at first be valued solely with reference to one characteristic—for example, the accessibility which its street frontage provides. The second step is to concentrate neighborhood opinion upon the problem of the relative value of the accessibility of differently located standard lots, and to do this in some organized and systematic manner, as by a series of public meetings, or thru the agency of a representative committee of citizens. These two principles of ground valuation, namely, to construct a definite unit in terms of which values may be expressed, and to consider one value-giving element of real estate at a time, appear in the Somers System as administered by the Manufacturers' Appraisal Company of Cleveland, Ohio. The plan of

a city, showing the relative value of accessibility for standard lots, as determined by the Somers System, is given in Figure 1, page 47.

This chart shows the final organized opinion of the community in regard to the relative value of accessibility of standard lots. This relation is expressed in the following manner: the most valuable block frontage in the city is chosen, and the value at that point is designated as 100; the values of all other block frontages are then indicated as percentages of this sum. When the accessibility of a standard inside lot has been determined for each block frontage, it is a comparatively simple matter to estimate the actual value of any lot by allowing for depth greater or less than the standard, for corner influence, for plottage value, and for the cost of filling or excavating to bring the ground to the street level.

7. *Variation of value with depth.*—Two authoritative rules are used in the valuation of depth. One of these was formulated by William E. Davies after an examination of the records of the sale of 10,200 parcels of land of different sizes and shapes in New York City. The complete Davies rule, giving the values for each foot of depth up to 200 feet, is to be found in the Annual Manual and Diary of the Real Estate Board of Brokers of New York City. The other rule is that of the Somers System. This rule in its complete form—also applicable to lots as deep as 200 feet—appears in a free pamphlet distributed by the Manufacturers' Appraisal Company of Cleve-

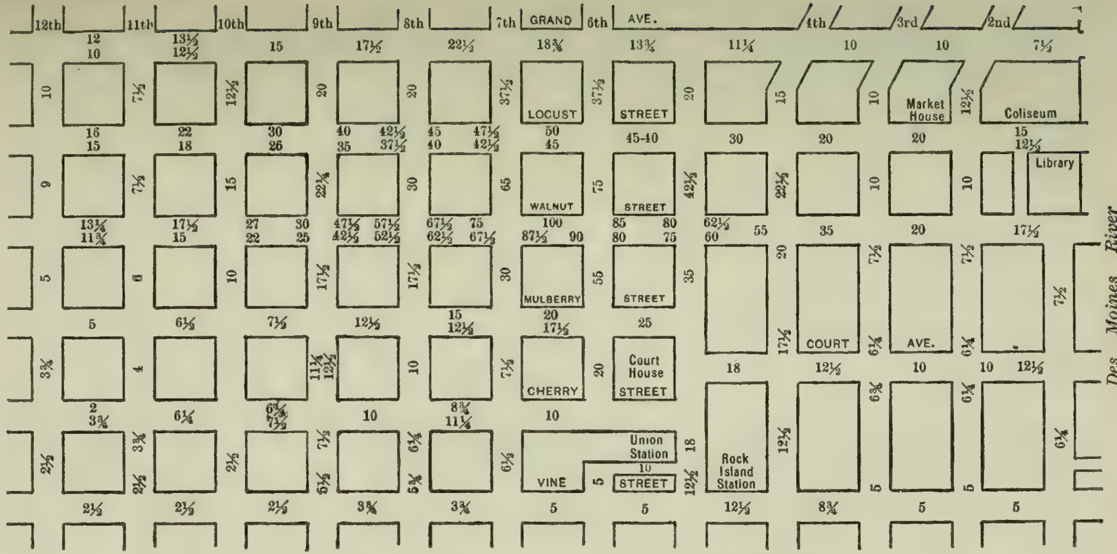


FIGURE 1. RELATIVE VALUES OF STREET USEFULNESS IN DES MOINES BUSINESS CENTER.

The accompanying diagram shows the judgment of a committee of citizens of Des Moines, Iowa, of the relative usefulness of the various blocks in the central business district of that city. Walnut Street, between Sixth and Seventh, marked 100, is regarded as the most valuable block frontage, and all other numerals marked in street spaces represent judgment of percentage values of the 100 per cent frontage. The high-value frontage was appraised at $2,000 per unit-foot, and the assessment was made and reviewed, practically without change or appeal, by computation of the various lots by the Somers System.

land. The quantities given in the comparative table,[1] are percentages of the value of a standard lot which has the same properties as the lot to be measured, but which is 100 feet in depth.

THE DAVIES AND SOMERS DEPTH RULES

Depth in Feet	Percentage of Value Davies	Percentage of Value Somers	Depth in Feet	Percentage of Value Davies	Percentage of Value Somers
5	12.6	14.35	105	103.0	102.08
10	21.7	25.00	110	106.3	104.00
15	29.2	33.22	115	108.7	105.78
20	35.8	41.00	120	111.2	107.50
25	41.7	47.90	125	113.7	109.05
30	47.1	54.00	130	116.2	110.50
35	52.1	59.20	135	118.7	111.80
40	56.8	64.00	140	121.2	113.00
45	61.3	68.45	145	123.7	114.05
50	65.4	72.50	150	126.2	115.00
55	69.4	76.20	155	128.7	115.95
60	73.4	79.50	160	131.2	116.80
65	77.1	82.61	165	133.7	117.64
70	80.6	85.60	170	136.2	118.40
75	84.1	88.30	175	138.7	119.14
80	87.6	90.90	180	141.2	119.80
85	91.0	93.33	185	143.2	120.31
90	94.0	95.60	190	145.2	121.00
95	97.0	97.85	195	147.2	121.53
100	100.0	100.00	200	149.2	122.00

There are two older rules for depth. The first is known as the Hoffman rule. It gives lower values than the Davies rule, up to 50 feet, and higher values from 50 to 100 feet. The second is the Neill rule, which gives higher values than the Davies rule up to 50 feet, and lower values for greater depths. The rule that is most convenient to remember is that of George J. Craigen. It reads as follows:

Where 100 feet in depth is worth a given price, take for each 25 feet from front to rear, 40 per cent, 30 per cent, 20 per cent, 10 per cent, 9 per cent, 8 per cent, 7 per cent, 6 per cent; a total of 130 per cent for a lot 200 feet deep.

[1] Page 9 of the pamphlet mentioned.

8. *Corner influence.*—The ground at or near the intersection of two streets possesses a greater value than inside lots, because a building erected upon it will have more light and air, and the business will possess superior transportation advantages and will make a stronger appeal to the passing public. This enhancement of value, above what is normal for nearby inside lots, is obviously greatest where two prominent streets of equal importance intersect. As the streets become less important and more unequal in importance, the enhancement of values in corner lots decreases. The Commissioner of Taxes and Assessments of New York City gives the outside limits of enhancement, as follows:

In a suburban section where the appropriate development is by the erection of detached houses, the appreciation because of corner position may not be more than 25 per cent for a lot 25 x 100; on the other hand, when the lot is at the corner of two streets, both of which are good retail shopping streets, the increment of value of a lot 25 x 100 may be more than 200 per cent over the value of an adjacent interior lot. The appropriate increment of value due to corner position must be considered with reference to the actual earning power and consequent selling value of corner lots in the particular section. The distance from a corner to which the influence upon value of proximity to the corner extends, depends upon the character of development appropriate for the neighborhood. Where a lot 100 feet square is the appropriate size for a building, the corner influence extends to the whole 100 feet; on the other hand, where a vacant plot 100 feet square at a corner would be improved with four or more buildings, the corner influence extends no farther than the width of the first lot.

The Somers System of valuation provides a series of corner-influence tables, giving the enhancement for the parts of an area 100 x 100 feet for every possible combination of street-unit values on the adjacent sides of the block. A street-unit value is the value of a strip of land, one foot wide by 100 feet deep, which is free from corner influence. Figure 2, page 51 represents one of these tables; it gives the values where a street with $1,000 unit value is intersected by a street with $250 unit value.

9. *Plottage.*—Plottage value is the additional value which is possessed by a plot of ground composed of a group of lots, and desired for a use that demands unit areas larger than a single lot. This element of value is well described by the Commissioner of Taxes and Assessments of New York City, in his report for 1914, as follows:

Where the appropriate improvement of a section demands lots of standard size, a lot of greater width than standard size has no more relative value than a lot of standard size, but where the appropriate building for that section requires a plot of greater depth, the larger plot has a greater relative value than the standard lot. In such cases an appropriate addition must be made to the value above that indicated by the unit, according to the size of the particular lot to be valued. In a tenement house section in Manhattan, a lot 37½ feet wide is worth relatively more than a lot 25 feet wide, because a tenement house, under the law, cannot profitably be built on a lot 25 feet wide, whereas an economical tenement house can be erected on a lot 37½ feet wide. In a territory suitable for lofts, a lot 50 feet wide is worth more than twice as much as a lot 25 feet wide, and generally a lot 100 feet wide would be worth more than twice

as much as a lot 50 feet wide. The appropriate increase for plottage must be considered with reference to the actual conditions prevailing in the section where the lot is situated. An addition for plottage may be as great as 20 per cent, or even more.

10. *Buildings.*—In most cases the utilization of urban ground requires the erection of buildings. As

Street with $250 unit value

899	715	624	568	520	498	485	453	444	440
954	773	679	619	572	538	514	493	476	470
1037	849	756	691	641	587	571	548	538	531
1127	933	835	781	719	663	644	624	614	612
1240	1032	918	875	809	748	734	714	704	702
1433	1137	1020	965	904	893	872	854	852	852
1618	1303	1167	1110	1033	1066	1044	1016	1008	1001
1840	1538	1403	1370	1353	1345	1334	1318	1306	1302
2125	1838	1757	1701	1671	1664	1647	1625	1612	1604
2803	2693	2645	2619	2594	2510	2563	2536	2517	2506

Street with $1000 unit value

FIGURE 2.

Value of each 100 square feet in a corner lot 100 x 100 feet in dimension, when a street with $1,000 unit value intersects a street with $250 unit value.

soon as one begins to think of erecting a building in a particular locality the questions arise, What shall the building be?—What is it to be used for? To

secure maximum income, and therefore maximum valuation, a building must be designed for the use that appears most logical according to the organization and functioning of the community life about it. To ascertain what this logical use is, it is necessary to make a careful study of the use that is made of property in that section, as well as to determine as accurately as possible what the tendency will be in the future.

It is a difficult task to judge in what way a section will develop. But it is essential to try to do so in order to be able to decide what kind of buildings to erect in that locality. To determine the type is only to open the door upon a multitude of problems of detail in regard to floor plans, elevations, structural materials, external ornamentation and interior finish, and accessories to be provided. The more durable one proposes to make a structure, the greater the danger of miscalculation, for the longer becomes the useful life which one attempts to forecast. And finally, there is the question of the best time to offer a given improvement to the renting public, in order that the space provided may be rented with reasonable promptness, and yet the construction of the building may not be so long delayed as to cause a burdensome carrying charge, on account of the bare land.

11. *Unit building costs.*—Mr. C. C. Evers, in his work, "The Commercial Problem in Buildings," has given a series of cubic-foot costs based upon New York prices of 1910. The following costs, accord-

ing to his figures, are typical in the case of some of the most common types of buildings: A cheap, detached frame dwelling, one or two stories high, without cellar or plumbing, from 7 to 8 cents; a frame detached dwelling, with cellar and furnace heat, 10 to 15 cents; a brick detached dwelling, with hardwood finish and parquet floors, 18 to 30 cents; an elevator apartment of ordinary construction, 18 to 22 cents; a fireproof apartment house, with modern conveniences, 30 to 50 cents; a store or loft building of mill construction, with heavy floors, 16 to 20 cents; a modern fireproof loft, 20 to 35 cents; and a fireproof office building or a financial building, of the average class, 25 to 35 cents. Engineers usually place little reliance upon square-foot or cubic-foot costs; they prefer to estimate the outlay for construction by analyzing the quantity of each kind of material required and the labor involved in putting it in place.

12. *Over-improvement.*—It is important to realize the danger of over-improving property, especially during periods of speculative excitement when a real estate boom has taken possession of a community. In this connection there are two rules that may be of service to the real estate owner. The first is that any improvement should be made in strict accordance with the standard that has been set in recent years by nearby owners. This policy conforms to the rule of homogeneity referred to in Sections 2 and 4. The second rule is, that the expense of any improvement should be regulated almost entirely according to the

comparative showing made by the gross income, the operating expenses, and the net income of nearby structures of different types. The economic value of a building is the capitalization of the net income —calculated for the entire period of useful life— left after operating expenses, amortization and ground rental have been subtracted. Countless errors, such as those vividly pictured in Richard M. Hurd's "Principles of City Land Values," could be avoided by a more careful reference to income accounts.

The influence of depreciation rates constitutes a special reason for avoiding over-improvement of property. If an equal sum is invested in ground and building, and if the building depreciates at the rate of 2 per cent a year, an appreciation of but 2 per cent on the ground will be required to sustain the total value intact. But if a structure is erected the value of which is five times that of the ground, a 2 per cent depreciation of the improvement will call for a 10 per cent annual increase in the value of the lot—a burden which the lot is not likely to carry for more than a few years, even under favorable conditions, during a period when the urban function of the locality is undergoing a most active transition to a higher plane. In the larger cities there are many examples of buildings which are either over-improvements, from the point of view of rental returns, or which, if they were carelessly taken as standards, would lead to over-improvement in other buildings.

There are, for example, the great office buildings, many of which have been erected by insurance companies. The net returns they bring are very low, but they serve the companies as advertisements.

The buildings that are used as banks are often over-improvements, and sometimes represent an almost criminal waste. The idea is that the size and beauty of the structure will impress the public with the solidity of the institution, and that therefore enough patronage will be secured to pay for the primary loss involved in the initial expense of construction. From an economic standpoint, public buildings are also frequently over-improvements. Altho the best of them give expression to the dignity of the city, state and nation, some of them unfortunately simply mark the raid that some congressmen have made upon the Federal Treasury in order to curry favor with constituents. Finally, many of the better class of residences are over-improvements; in building them the owners have not looked upon such residences chiefly as production goods (capital to provide an income), but as consumption goods. They are made luxurious because the owners can afford luxury. To copy any of these classes of structures when the purpose of building is pure investment, would be to invite disaster.

13. *Improvement and change of utility.*—The problem of changing the type of buildings as the function of a district changes may be dealt with in two ways. Either the final improvement may be post-

poned while the carrying charge of the land is being financed thru the agency of a taxpayer, or a building may be constructed which is convertible, or to which additions can be made.

14. *The taxpayer.*—A taxpayer designates a temporary structure that will pay operating expenses and amortization charges and yield a profit to apply on the carrying charges of the ground. The mathematics of a taxpayer is very simple. The chief difficulty lies in making the assumptions necessary to set the problem in mathematical form. Let us illustrate by an assumed case:

GIVEN FACTORS

Present value of the lot (30 ft. at $500 per front foot)	$15,000
Building to be pulled down to make way for a permanent improvement in	15 years
Taxes and special assessments levied on assessable value of the property (Estimated average annual rate)	$20 per $1,000
Average assessable value of the lot during the period	$25,000
Average assessable value of the building during the period	⅝ of cost of construction
Insurance premium	1% a year
Money can be borrowed to build, at	6%
Money can be put into a sinking fund to amortize the cost of the building to yield	5% compounded semi-annually
Rental offered on the basis of plans and specifications	$200 a mo.
Operating expenses chargeable against the building	2 months' rental a year

SOLUTION OF THE PROBLEM

The thing to be determined is the investment that will yield the highest net income above all charges. The method is that of trial and error. That is to say, different sums must be assumed as the cost of the building until the variations in the results indicate approximately the amount of investment that

will yield the maximum net rental. For an outlay of $8,000 the following results would be obtained:

Rental		$2,400.00
Operating expenses	$ 400.00	
Amortization $.02278 x 2 x 8000	364.48	
Interest $.05 x 8000	400.00	
Taxes and assessments $20 x 30	600.00	
Insurance premium $.01 x 8000	80.00	
Total expenses to deduct		$1,844.48
Balance to apply on the carrying charges of the lot annually		$ 555.52

REVIEW

What are the signs of geographical change in the retail district of your city? Is the district moving in any given direction or growing evenly on all sides?

In your neighborhood, what evidences of wrong improvement do you find? What buildings are devoted to purposes other than that for which the immediate locality is best fitted?

Is there a marked segregation of business properties in your city, and what business sub-centers are there away from the main district? What types tend to group themselves together? Where could new railroad sidings be built? In this connection consider the value of land that would be condemned, grades, angles and street crossings.

Consider the demand for different types of property in your town. What would be the result on rentals and prices if the business of your town should fall off 20 per cent for one or two years.

Using the Craigen depth rule, and assuming a standard lot to be 25 x 100 feet, find the value of the following lot: size, 100 x100 feet; street unit $100 for front foot; corner influence adds sixty per cent to the value of the corner lot and ten per cent to the value of the lot next the corner; plottage adds ten per cent to the value.

If you were offering for sale a lot 75 feet deep, which depth rule would you prefer to have used: the Davies, the Somers, or the Craigen rule? If you were buying a lot 125 feet deep, which rule would you prefer?

What ought to be the plottage per cent for a corner plot, 100 x 100 feet, nearest your residence, according to the ideas of the Commissioner of Taxes and Assessments of New York City?

CHAPTER IV

URBAN REAL ESTATE (*Continued*)

1. *From rentals to values.*—The sums paid by renters constitute the source from which operating expenses are paid, and from which the net income of the investor is derived. Operating expenses include taxes, insurance, repairs, depreciation, expense of collecting rent, janitor's wages, and the costs of services such as light, heat and elevator.

The yearly operating expenses of a certain Detroit building, three stories in height, and of masonry and steel construction, providing fourteen apartments and six stores, are as follows:

120 tons of "run of mine" coal at $3.50 per ton	$ 420.00
Janitor, $15 a month (also quarters in basement)	180.00
Taxes and insurance	750.00
Service, light, etc.	100.00
General upkeep	610.00
Total	$2,060.00

The yearly operating expenses of a high-class apartment house on the Northside in Chicago, containing six four-room apartments and six five-room apartments, are as follows:

Janitor	$ 360.00
Coal	550.00
Taxes	612.55
Insurance	38.50
Water	42.50
Repairs and redecorations	675.00
Total	$2,278.55

In general, taxes will range from 1 to 2 per cent of the value of the property, repairs from ½ of 1 per cent to 2½ per cent, depreciation from 1 to 5 per cent, and insurance from 1 to 3 per cent.

Mr. Richard M. Hurd has compiled the following table of operating expenses, calculated as percentages of the gross income.

Types of Structure	Expenses	Net rents
Low retail or wholesale buildings	10–25%	90–75%
Residences	20–30%	80–70%
Non-elevator office buildings	25–35%	75–65%
Tenements, non-elevator and elevator	25–45%	75–55%
Elevator apartments	40–55%	60–45%
Fireproof office buildings	40–55%	60–45%

On the basis of the scale of operating charges, given above, for the Detroit apartment, the value may be calculated as follows:

Rentals	$ 7,860
Operating expenses	2,060
Net annual income	$ 5,800
Interest on mortgage of $30,000 at 6%	1,800
Owner's income	$ 4,000
Capitalizing the owner's income at 10%	40,000
Mortgage	30,000
Total value	$70,000

If we treat the Chicago property similarly we shall have the following figures:

Rentals	$8,352.00
Operating expenses	2,278.55
Net annual income	$6,073.45
Interest on mortgage of $30,000 at 6%	1,800.00
Owner's income	$4,273.45

Capitalizing the owner's income at 10%	$42,734.50
Mortgage	30,000.00
Total value	$72,734.50

These calculations raise the question of the rate of capitalization to use. This may range from 5 to 15 per cent, according to the property. It is low on property of the highest value occupied only by tenants of large financial responsibility and located in sections which, it seems certain, will continue to perform for many years to come the urban function in which they are engaged. The opposite conditions, as represented by dilapidated buildings in districts that are undergoing a change of utility, have values that show the use of a high rate in capitalizing income.

The value of city property is based chiefly on earnings, that of farm property upon market prices. City buildings should not be valued on the basis of the cost to construct or to reproduce, but on the basis of their appropriateness for a given use for which there is active demand. It is a safe rule to limit mortgage loans to such a sum that, if the operating expenses remained unchanged, but the gross rentals decreased one-third, the interest charges would be earned comfortably.

2. *From rental to renters.*—From rentals to renters is the last step in checking the soundness of plans for proposed new structures. On the basis of estimated land values, building costs, operating expenses and prevailing rates of interest, and with a given earn-

ing power required by the owner, what rental will it be necessary to charge for space, per square foot of floor, or per room, or per apartment? Does this rate agree with that for similar accommodations successfully rented nearby?

Or, to push the inquiry a step further, going behind the local rental market and considering the function of rent in household and business budgets, what rentals can the class of people it is hoped to secure as tenants afford to pay? One of Engel's budget laws was that the amount expended by families for lodgings, fuel and light tends to remain a constant percentage of the income, irrespective of the amount of the income. Engel's estimate, made in 1857 for Saxon [1] workmen with annual incomes of $225 to $3,000, was that lodgings should cost 12 per cent of the total income of the family, and fuel and light 5 per cent, or a total of 17 per cent of income for these expenditures. Two official estimates of the cost of maintaining a wage-earning family were made in 1915, one for New York City and one for Buffalo. The New York City estimate made by the New York Factory Investigating Committee gave the total cost at $873.43, of which rent was $200, or 23 per cent. The Buffalo total was $772.43, of which rent was $120, or 15½ per cent.

The New York City Bureau of Standards, in its *Report on the Cost of Living for an Unskilled*

[1] Marshall, "Principles of Economics," page 190.

Laborer's Family in New York City, estimated the total cost of living at \$840.18, and placed rent at \$168, or 20 per cent. The Amalgamated Association of Street and Electric Railway Employes, of Chicago, submitted a schedule of the cost of living, during the course of an arbitration in 1915, in which the total was \$1,209.88, and rent was \$240, or 20 per cent. On the basis of these calculations it seems fair to estimate the cost of rent at 20 per cent of the income of the wage-earning classes. We can, then, in the case of proposed dwellings and apartment houses make a budget test. On the basis of the estimated land value, building cost, prevailing interest rates and the income desired, what will be the annual rental? Is this rental approximately 20 per cent of the income of the class of renters it is desired to attract?

In the case of rentals for business purposes the budget test is less valuable, for a high rental may carry itself by increasing the mass of business done or by allowing economies in other lines, particularly, advertising. In retail business, rentals vary from 1½ to 3 per cent of sales, while the total cost of doing business runs from 15 to 25 per cent of sales.

3. *Elements in the valuation of real estate.*—In closing the discussion of the valuation of real estate, the considerations which the assessors of Philadelphia are asked to take into account in making valuations may be offered as evidence of the many factors which enter into a calculation of values.

1. The previous assessment.
2. The consideration paid, as set forth in recorded deeds etc.
3. Amount loaned on mortgage secured thereon.
4. Valuations as sworn to in petitions to the Orphan's Court.
5. Valuations as sworn to in petitions to the Court of Common Pleas.
6. Valuation placed on same in condemnation proceedings.
7. Valuation set forth as required by law in sworn statements made by corporations as to real estate owned by them.
8. Amount loaned on mortgage secured thereon by financial institutions allowed by law to lend only on a certain fixed percentage of the real value.
9. Amount offered in good faith for the same.
10. The rent paid therefor.
11. Value placed thereon by owner.
12. Value placed thereon by seller.
13. Value placed thereon by real estate experts.
14. Information in possession of title insurance companies.
15. Volunteer information given to the assessors by persons alleging special information on the subject.
16. The so-called "city services," of which the real estate has the benefit.
17. The amount and character of traffic in front of or near the same.
18. The nearness of the real estate to trolley lines, elevated and subway lines, railroad stations, etc.
19. The character of the neighborhood in which the real estate is situated.
20. Recent or contemplated improvements in the neighborhood.
21. Whether or not undesirable elements are present in the neighborhood.
22. The grade of the land. How this fits into the city plan.

23. Whether or not the real estate is a corner property.

24. If not, whether it has access to two streets, one in front and one in rear thereof.

25. Whether or not it is rented, occupied by owner, or empty.

26. Whether or not it has a water-front.

27. Whether or not it has, or is in a position to obtain, a railroad siding.

28. The cost of construction of buildings thereon, as indicated in the records of the Bureau of Building Inspection.

29. Information as to the value of the buildings in the possession of the fire underwriters.

30. The value placed upon the buildings by fire insurance experts.

31. The value placed upon the buildings by builders and contractors.

32. Whether or not the buildings are in proper repair.

33. Probable cost of construction of buildings by cubic feet.

34. Probable cost of construction of buildings by square feet of floor space.

35. Whether or not the possible uses of the buildings are suited to the neighborhood in which they are located.

36. Whether or not the property is so situated as to be practically necessary for a contemplated improvement, to the municipality or to some company or individual other than the owner.

37. The value of the adjacent property.

38. The value of properties of practically the same character situated in practically the same sort of neighborhood elsewhere in the city.

39. Personal inspection by the individual assessor.

40. Newspaper reports as to sales, rentals, etc.

41. Testimony given before the Board of Revision on appeals.

4. *Real estate mortgages.*—Many of the considerations stated in the chapters on "Farm Mortgages"

are applicable to real estate mortgages. Like the farm mortgage, the urban mortgage is not listed; moreover, it is a slow asset. On the other hand, mortgages have a corresponding immunity from great pressure of liquidation in panics, for since they are not used as collateral for call loans, they are not thrown upon the market in quantities when the banks are protecting their reserves. Like the farm mortgage, also, the urban real estate mortgage offers a high yield and is not subject to fluctuations. The chief difference between these two classes of mortgages is that the security behind a real estate mortgage is much more difficult to value than that pledged in a farm mortgage. This fact is an argument for passing the real estate mortgage thru the hands of a reliable broker. The security is difficult to judge because of the complexity of the economic structure of the city upon which the utilization of the property rests, because of the changes constantly in progress in that structure, because of the fact that city land values are subject to greater fluctuations from boom times to panic times than farm land, and because buildings constitute a larger percentage of the security. This latter difference makes necessary special attention to insurance and mechanics' liens. It makes advisable the use of a short-term in order that renewal periods may give the opportunity for frequent revaluations.

The investor should prefer mortgages on improved and occupied property. Vacant real estate not only

yields no income to the owner, but puts a financial burden upon him. After foreclosure this burden will rest upon the mortgagee if he is obliged to bid in the property. The best occupant is the owner. When he owns the property the instincts of proprietorship and home ownership are brought into play to energize the mortgagor to meet his obligations. It is unwise to loan on clubs, theaters, churches, poor tenements or luxurious private residences—or, in fact, upon any extreme or eccentric type of structure.

Property in the firmly established sections of a city is greatly to be preferred to that in outlying districts and suburban additions. In periods of panic or depression, a city appears to shrink in from its boundaries toward the central districts. The central values suffer least, but property on the outskirts, stopped in the process of development, may fail of a market on any terms. The chief frauds in the real estate mortgage market are connected with the inflated valuation of suburban lots held by development companies. The sovereign remedy for the ills of the real estate mortgage market is to obtain a reliable appraisal, and then to limit loans to a conservative proportion of the total value. Such a proportion has been established by general opinion at 60 per cent for the central districts of the largest cities; 50 per cent for property in those cities outside the central district, but within well-established locations, and also in cities of intermediate and smaller size in the East and Middle West; 35 to 40 per cent in the suburbs of the larger

cities and in smaller communities in the East, and in the chief cities of the Far West.

5. *Guaranteed mortgages.*—Guaranteed mortgages are chiefly a product of the large eastern cities. A complete form of guarantee, as offered by the Lawyers' Mortgage Company, of New York City, includes the guarantee of principal and interest—the principal to be paid as and when collected, but in any event within eighteen months after demand made when the mortgage matured; the interest to be paid within five days after maturity. This guarantee includes, further, title insurance and insurance against fire, lightning, flood, riot, earthquake, and bankruptcy of the borrowers. At maturity it includes the reappraisal of the property, the searching of the title, and the extending of the mortgage at the current rate of interest, or else the repayment of the principal. The cost of this service is one-half of one per cent on the investment. The net yield of these mortgages is at present 4½ per cent. To limit its contingent liabilities this company restricts the total amount of its guarantees to twenty times its capital and surplus.

6. *Second mortgages and participating mortgages.*—Second mortgages are taken chiefly by builders or real estate dealers to finance buyers, in view of the profits of a business transaction. They are safe only when the first mortgage is 15 to 20 points below the mortgaging limit, or from 30 to 40 per cent of the total value of the property, and when the sum of the

two mortgages does not exceed the loaning limits given above.

The participating mortgage creates two interests in one mortgage. By this plan, if one of the parties is willing to take a somewhat hazardous security, a single mortgage can be issued beyond the limits of conservative practice. Thus, if 50 to 60 per cent is the limit for a gilt-edged investment, a mortgage may be given for 70 to 80 per cent of the value of the property. The original holder of the mortgage puts it up as collateral for a loan of, say, 5/7 or 6/8 of its face value, so that the advance received on it is only 50 to 60 per cent of the value of the mortgaged property. Such a loan will be negotiated at a lower rate of interest than that which the mortgage bears. By this means one investor is fully protected if the property repays 5/7 or 6/8 of the loan on foreclosure and he receives a moderate rate of interest. The other investor runs the risk of bearing all the shrinkage down to the 50 to 60 per cent line; and he gets the full rate of interest on the portion of the mortgage not pledged, namely, 2/7 or 2/8, plus the difference between the interest received on the balance of the mortgage (5/7 or 6/8) and the interest rate that is paid for the money borrowed on it.

7. *Leasehold mortgages.*—Leasehold mortgages, or leasehold bonds secured by them, are common in Chicago, being necessitated there by the system in vogue of leasing central district real estate for long periods. It is essential to the security of such liens

that provision be made in the mortgage or trust deed that any default of the mortgagor on his lease shall become likewise a default in the mortgage or trust deed. The remedies provided in case of default are the usual ones of foreclosure and receivership, and a special one which provides that the trustee may enter upon and manage the property, assume all the rights and duties of the lessee, and receive all the revenues and profits of the property. As a leasehold is a wasting asset, in spite of the fact that its sale value may increase for a time, it is wise that loans which are to extend over any considerable portion of the life of the lease should provide a definite plan of serial payment.

8. *Amortization.*—The subject of amortization of real estate mortgages has been much discussed. From the point of view of the lender, it may be said that the rapid changes in urban values require short loans; a loan of five years is the average, and one of ten years (for a smaller percentage of appraised value) is the limit of safety. These periods are too short for amortization. Amortization plans that would permit payments to be made out of earnings would require periods from 50 to 100 per cent longer. Real estate loans for such a long period would be unwise. From the point of view of the borrower, amortization is equally impractical. It would be necessary for him to give up all, or a greater proportion, of the income of his property. From the point of view of the public, amortization is decidedly undesirable. If it

were to become common practice it would operate to establish a new current charge to be met out of gross earnings. This would inevitably be regarded somewhat in the light of an operating expense. Thus an effort would be made to keep net earnings as before by lifting prices to include the new charge. The public would be expected, as consumers, to pay rents sufficiently high to gradually lift the mortgagors out of debt.

9. *Mortgage bonds on individual properties.*—In the larger cities of the United States the land values and the building costs have become so great that individual loans secured by first mortgages have grown too large to be handled by private investors. In order to reach the small investor, the plan has been devised of the borrower's giving a trust deed to an investment house and issuing a series of bonds secured by it, these bonds being sold to investors by the investment house. The trustee appointed is usually a member of the investment house; and he is sometimes not only appointed trustee under the deed, with reference to the property, but put in charge of all rentals and other income, to apply them as the interests of the parties appear. These split mortgages, or "single-property mortgage bonds," as they are called, do not permit the individual investor the freedom of action that is possessed by the owner of an entire mortgage; but to make up for this the investor gets the services of a trustee who is an expert, and who is backed by the resources and experience of a large

financial concern. If this trustee is a trust company, the investor has the further protection of the supervision provided by state banking laws.

The mortgages, or trust deeds, which attach the bonds to the property are elaborate documents of from thirty to fifty printed pages.[1] The single-property mortgage bond is not an obligation of the financial house that markets it, but of the borrower. If the borrower is not a corporation this means that the bonds are the evidences of debt of an individual, and so are exempt from the Federal income tax. The trustee serves as the intermediary between the borrower and the lender, collecting and paying out interest, enforcing all provisions essential to the maintenance of the property in value, and preserving the mortgage as a first lien upon it. He requires periodical statements of the owner as to earnings and the like. It is not considered good practice for the house offering the bonds to have any interest in the mortgage property. The types of property which are now most frequently used as security for mortgage bonds of this type are office buildings, apartment houses, hotels, and manufacturing buildings which are located in large cities and are of standard design.

The requirements of S. W. Straus and Company involve, among other points, the following:

First—The margin of safety on every loan must be large. That is, we never loan more than a safe amount, around 50

[1] Samples can probably be secured from S. W. Straus and Company, of Chicago and New York; Greenebaum Sons Bank and Trust Company, of Chicago; Peabody, Houghteling and Company, of Chicago, or other dealers.

per cent or 60 per cent of the value of the property mortgaged. This leaves a large margin or equity in the property to protect the bondholders' investment.

Second—The margin of earnings must be ample. That is, the net rental income on the property must be at least two or three times enough to pay the interest on the bonds.

Third—Clear title to the property mortgaged must be assured by the guarantee of a highly responsible title and trust company, or the opinions of able attorneys.

Fourth—Ample fire insurance on the improvements must be carried, payable to the trustee of the bond issue for the protection of the bondholders.

Fifth—The mortgagor must be an individual, firm or corporation of responsibility, good credit-standing and a clean moral and financial record.

Sixth—The trustee in every bond issue must be the President or first Vice-President of this Company, so as to give us the right to take prompt action under the terms of the Trust Deed for the protection of the bondholders, if it ever should become necessary.

Seventh—All bond issues must mature serially.

Serial payment is almost invariably arranged for by making the individual bonds fall due according to a regular schedule. This provision aims to scale down the indebtedness more rapidly than depreciation or change of utility can diminish the security, and to inculcate in the borrower thrift and conservatism in managing his property and in applying his income.

While the individual-property mortgage bond does not provide a large enough issue to make a wide market or to warrant listing, a market is usually provided by the issuing house at a handling charge of one per cent.

10. *Construction bonds.*—The Chicago single-

property mortgage bond is often a construction issue, for in that city the New York practice of financing building operations by special building loans is not followed, so that prospective builders turn directly to mortgage brokers. This fact renders necessary certain precautions, such as that the trustee obtain full release from each contractor and sub-contractor upon the completion of his work, and that there be inserted in the trust deed clauses impowering the trustee to continue construction if the borrower should fail. The standard clause covering this point, in use by S. W. Straus and Company, is as follows:

> The Mortgagors covenant that they will erect and fully complete, with reasonable dispatch, upon said premises hereinbefore described, a four-story brick, stone and steel constructed apartment building in all respects in accordance with the plans and specifications prepared and furnished by John Doe, Architect. If the Mortgagors shall for any reason abandon or unreasonably delay the construction of said building, or fail to complete, or by any cause whatsoever be prevented from completing the same, the Trustees may, at their election, but without prejudice to any other right hereunder of the Trustees or of the bondholders arising in consequence of such default, complete the construction of said building at the expense of the Mortgagors, and as its attorney in fact, hereby irrevocably appointed for that purpose, may draw all or any part of any sum to which the Mortgagors may or might otherwise be entitled, and may make all necessary contracts for construction work, and may sign the name of the Mortgagors to any and all papers and documents necessary for any or all of the said purposes.

Since construction bonds are bonds sold before the building which serves as a part of the security is com-

pleted, it follows that the figures used in connection with income and operating expenses are merely estimates. Hence, the safest calculations are those which have to do with standard types of buildings located in well-established sections. Light upon the probable financial future of such structures can best be gained from the study of the experience of similar structures nearby.

11. *Collateral trust real estate bonds.*—A type of investment similar to the single-property bond is created when a firm of recognized standing dealing in real estate mortgages, enters into a trust agreement with a financial house as trustee, under which mortgages on urban property can be deposited and bonds can be issued in like amount, based upon them as security. The object of this plan is not to split up a large mortgage, but to cure various defects of small mortgages by exchanging them for bonds similar to single-property mortgage bonds. A collection of small mortgages may be brought together and made the basis of a bond issue large enough to create an established market, at least locally, and in some cases large enough to warrant listing. Collateral trust bonds may be issued for a longer term than the individual loans that secure them, and the security may be kept intact by the simple process of supplying new mortgages as fast as the old ones are paid off. The bonds avoid change of interest rate. They are issued in convenient denominations.

The crux of the problem of the collateral bond is the quality of the security deposited. The inquiries of the investor should be directed toward discovering the standing of the issuing house and of the trustee, and toward ascertaining the nature of the covenants which have been entered into with reference to the quality of the mortgages in the collateral fund.

The restrictions in the trust agreement securing Mortgage Bond Series 2 of the Mortgage Bond Company of New York City, which apply to the trust fund, are in part as follows:

Exclusively for the benefit of the Trustee and the holders of the Company's Bonds the Company further covenants and agrees with the Trustee and its successor or successors that it will observe the following rules with respect to the conduct of its business, touching the bonds and mortgages assigned to and deposited with the Trustee from time to time under this Agreement:

(1) That each and every mortgage which it shall at any time assign to and deposit with the Trustee under this Agreement, shall be (subject to the provisions of Article Five hereof) a first lien upon improved real estate in a city situated in the United States of America having a population of not less than forty thousand, and for an amount not exceeding one-half of the value of the mortgaged property as appraised for the Company, except that in cities having a population of not less than three hundred thousand such mortgage may be for an amount not exceeding three-fifths of the value of the mortgaged property as appraised for the Company, and that within the political boundaries of New York City such mortgage may be for an amount not exceeding two-thirds of the value of the mortgaged property as appraised for the Company. The term "city" is used thru-

out this instrument in the economic sense to designate an urban community, and without reference to its political boundaries.

(2) That it will not assign to and deposit with the Trustee under this Agreement any mortgage on a single building which shall exceed an amount equal to $2.00 for each inhabitant of the city in which the property is located.

(3) That the aggregate unpaid principal amount of all mortgages forming portion of the Trust Fund upon property in any one city shall not exceed in amount $2.00 for each inhabitant of such city per $1,000,000 of the Company's Bonds issued and outstanding and secured by this agreement.

(4) That the aggregate unpaid principal amount of all mortgages forming portion of the Trust Fund upon property in any one city shall not exceed in amount twenty per cent of the total amount of the Company's Bonds issued and outstanding, unless such mortgages are upon property situated within the political boundaries of New York City.

(5) That the aggregate unpaid principal amount of all mortgages forming portion of the Trust Fund upon property in any city of from 40,000 to 70,000 inhabitants shall not exceed a total of $40 per inhabitant, and in cities of from 70,000 to 100,000 inhabitants shall not exceed a total of $50 per inhabitant.

(6) That no single bond and mortgage shall be assigned to and deposited with the Trustee under this Agreement which shall exceed in principal amount ten per cent of the capital and surplus of the Company then outstanding.

(7) That the appraised value taken as a basis for the mortgage loans is not to exceed the selling value determined by the Company by careful investigation. In arriving at this value only the established utility of the property and the earning power under systematic management will be considered.

(8) That such appraised value of properties securing bonds and mortgages assigned to and deposited with the

Trustee under this Agreement shall be in all cases based on two appraisals, one of which shall be made by the Company's appraiser in the city where the property is located, and the other shall be made by a representative of the Company in the home office, who shall have personal knowledge of values in all the cities in which he makes appraisals. From time to time the Board of Directors shall issue instructions to the appraisers touching the methods to be employed in fixing the value of properties on which loans are to be made. No mortgage shall be assigned to and deposited with the Trustee unless it has been approved by the Executive Committee of the Company. In case any mortgage amounts to $100,000 or over, a third appraisal shall be obtained, made by an additional appraiser selected by the Company.

(9) That the bonds and mortgages which it shall assign to and deposit with the Trustee under this Agreement shall in no case be secured by farm property, unimproved property, undivided interests in property representing less than the entire ownership of the property, leaseholds, or by churches, factories, clubs or theaters.

(10) That mortgages on new buildings which are not completed and productive must not form more than one-tenth of the total of mortgages assigned to and deposited with the Trustee under this Agreement. No building loans shall be made in New York City without a guarantee either of the completion of the building or of the repurchase of the mortgage by a corporation in good standing competent to make such a contract, nor in other cities without retaining at all times from the moneys to be advanced upon the mortgage an amount which the Company shall deem sufficient to entirely complete the building according to the plans and specifications.

(11) That no real estate shall be acquired except to avoid losses under foreclosure, or to provide offices for the Company's own use. All real estate acquired under foreclosure shall be promptly sold.

(12) That fire insurance policies to an amount which the Company shall deem sufficient to protect the mortgage in fire

insurance companies in good standing shall be obtained by the Company and deposited with the Trustee.

(13) That so long as any of the Company's bonds shall be outstanding, the Company agrees that it shall have an annual audit of its books by independent auditors or chartered accountants to be designated from time to time by the Executive Committee of the Company.

12. *Real estate debentures.*—There are certain securities chiefly issuing from New York City which bear the title of real estate debentures, and which are sometimes put forward as real estate bonds. They are not really bonds at all, but unsecured long-term notes of companies that operate in real estate. Their position is intermediate between bonds and stock. The prospective investor should satisfy himself of the conservatism and business skill of the issuing company. He should secure explicit information as to the company's assets, and to that end should be provided with a balance sheet prepared by a certified public accountant. He should also have an appraisal made of the property in which the mortgages which are prior liens to the debentures should be itemized. The recent failure of certain houses in New York City and in Los Angeles which had issued real estate debentures, and the recent embarrassment of a prominent corporation in New York City, have temporarily placed this class of security in the background.

REVIEW

If you know the actual cost of any building conforming to one of Mr. Engel's types, calculate the cost according to his cubic foot cost standards, and note how close the estimate comes to the actual figures.

State two rules for determining what type of building to construct in any neighborhood.

Can you illustrate over-improvement (from the point of view of pure real estate investment) in your locality? Under-improvement?

Given a lot, value \$10,000; building to stand 15 years; tax rate \$2.00 per \$1,000; average assessed valuation, ½ of cost; average assessed valuation of lot, \$15,000; insurance, 1½ per cent of cost per annum; money rate, 6 per cent; amortization cost, \$.04634 annually per \$1.00 spent; operating expenses, \$300 per year; rental offered, \$200 per month. What will be the proper amount to spend for the erection of the proposed building?

What special safeguards are required for single-property construction real estate bonds?

Give a list of the principal safeguards to insure proper quality in the mortgages used as collateral for a series of collateral trust real estate mortgage bonds.

CHAPTER V

PUBLIC BONDS OF DOMESTIC ORIGIN

1. *Federal bonds.*—The bonds of the United States government, like those of most state, municipal and local debt-contracting governments, are unsecured obligations resting only upon the pledge of the issuing government. In case of default on Federal issues there is no redress, for the government cannot be sued. The bonds of the United States have sold at a high price which offered a very small yield to the investor. This is not only because the credit of the government is extremely high, and because it has customarily paid off debts so rapidly that the supply has been small (a little over $1,000,000,000 before the World War) but because the price is bid up for other than strictly investment reasons.

The report of the Comptroller of the Currency for 1915 reveals to how great an extent government bonds were then held by banks and the consequent artificial nature of the market for them. The total value of United States consols of 1930 (the government 2 per cents) was $646,250,150. Of this issue, bonds aggregating $600,678,600 were on deposit to secure national bank notes and $11,525,850 to secure public deposits. Accordingly, less than 6 per cent of this issue was held by other than national banks.

The total bonded debt of the United States on October 31, 1915, was $970,624,590. This figure includes three separate issues of the United States, of Panama and $7,307,100 of postal savings bonds. A summary of the combined returns from national banks, incorporated state and private banks and loan and trust companies as of June 23, 1915, showed $811,159,095.53 as the amount of government bonds among their assets. This represents approximately 83⅗ per cent of all United States bonds issued.

The price of pure money, as stated in the findings of the Interstate Commerce Commission in the Western Advance Rate Case was as follows:[1]

1900	3.02%
1904	3.17
1908	3.47
1912	3.59
1914	3.77

These rates may be compared with the investment yields given in the tabulation to follow. It will be seen that none of the government issues except the colonial bonds yield within practically one per cent of the rate for pure money.

The national banks must deposit government bonds with the United States Treasurer in amounts equal to their note circulation. The banks which are depositories for public money must likewise deposit equal amounts of government bonds. The annual

[1] The figures accepted by the Commission were the result of calculations made by Dr. J. Pease Norton in the brief for the State Railroad and Public Service Commission.

(COST OF A $1000 2% BOND $997.50. MONEY AT 4%)

$1000 2% bond deposited in Washington would yield...		$20.00 per annum
1000 Circulation returned to the bank and loaned at 4% would yield		40.00 per annum
TOTAL GROSS RETURN FROM CIRCULATION		$60.00 per annum
From which deduct:		
Tax ½% on circulation	$5.00	
Average expenses (covering shipments of renewed currency from Washington) about........	.63	
Loss of 4% interest on redemption fund to be lodged in Washington against outstanding circulation.	2.00	7.63 per annum
NET INCOME TO BE DERIVED FROM CIRCULATION........		52.37 per annum
Net income without circulation, obtained by loaning the net cost of the bond at 4%		39.90
NET ANNUAL INCREASED INCOME OR PROFIT FROM EACH $1000 CIRCULATION		$12.47 per annum

The following comparative calculations indicate the annual profit or increased income obtainable by purchasing today a $1000 bond of the various issues and using same for the purpose specified, with money at 5%, as of July 1st.

ALL TAX EXEMPT	Assuming Maturity	Present Approx. Price	Investment Yield	When Securing Bank Note Circulation	When Securing Postal Savings Deposits
Consols 2s	1930	99¾	2.00%	$11.99	Loss $4.88
Panama 2s	1938	99¾	2.00%	11.99	" 4.88
Old 3s	1918	101½	2.28%	9.25	" 2.63
4s	1925	111½	2.50%	10.05	" 1.82
Conversion 3s (1 yr. Notes)	1917	100½	2.50%	....	" .16
Conversion 3s (30 yr. Bonds)	1946	103½	2.87%	*	Profit 2.75
Panama 3s	1961	103	2.89%	*	" 3.32
District of Columbia 3.65s	1924	105	2.97%	*	" 4.13
Philippine 4s	1934	101½	3.88%	*	" 13.75
Hawaiian 4s	1942	102½	3.80%	*	" 13.28
Porto Rico 4s	1935	102¾	3.80%	*	" 12.77

* Not acceptable to secure circulation.

report of the Comptroller of the Currency contains calculations of the profit earned by the national banks

thru taking out circulation. On this basis, C. F. Childs and Company, of Chicago, published the compilation, given on page 82, for 2 per cent bonds at the price quoted July 1, 1916.

These bonds fluctuate very little as between boom and panic times. Their principle of fluctuation is the rise and fall of the interest rate.

Security	Price during panic month Dec. 1907		Price during boom month Dec. 1909	
	Low	High	Low	High
3s. 1908–18 coupon	100½	102	101⅜	101⅜
4s. 1925 coupon	117	120	116	116
Cons. 2s. 1930 registered....	104¾	104¾	100½	101½
4s. 1925 registered	119½*	125*	114¾	114¾

* Last quotation was October, 1907.

The chief hazard of this form of investment is that Federal legislation may alter our bond-secured bank currency system and so withdraw the bank support which now keeps prices at an abnormal level.

2. *State bonds.*—In the field of state bonds, there has been a history of repudiation, during the thirties and forties, the Civil War, the Reconstruction period, and the hard times of the seventies. Such a wave of repudiation is not likely to recur. As a souvenir of repudiation, however, there is in existence a considerable amount of worthless paper. No state bond issued before 1885 should be purchased by an investor unless an expert has passed upon its standing. The amount of state bonds available is very small, the states being averse to creating standing debts.

The standing of any particular issue is to be judged

by the spirit of the people of the issuing state toward their obligations, as evinced by their financial history, and by the legislation they have enacted concerning debt. It is further to be judged by the tax machinery, the assessed valuation and the amount of outstanding debt. The formula for presenting the financial condition of a state to the investor is very simple. For New York State the subjoined statement was issued in 1915 in connection with the offering of the 4½ per cent Canal Highway Barge and Terminal bonds due 1945 and 1965, which were priced by the dealers at 104¼ and accrued interest.

FINANCIAL STATEMENT

(As officially reported)

Assessed Valuation, 1915		$11,385,137,127.00
Total Funded Debt, including this issue	$186,260,660.00	
Less Sinking Funds	36,953,164.04	
Net Funded Debt		149,307,495.96
Net Funded Debt less than 1⅓% of assessed valuation		
Population 1910 Federal Census		9,113,614.00

The Constitution and Laws of New York State require the establishment of Sinking Funds sufficient to retire these bonds at maturity.

Finally, a state bond may be judged by the strength of the bond recital and the regularity of issue, the desired merit being such a clear-cut and unequivocal obligation that no peg is left for the spirit of repudiation to hang upon should times of great stress come in the future. State bonds are bid up slightly against private investors outside the state of issue, by the requirements of certain insurance laws, by the limitations of trust fund and savings bank in-

vestment, and by tax exemption when they are in the hands of citizens of the issuing state.[1]

The high standing of state bonds is indicated by the fact that they are universally made legal for investment of savings bank funds, with certain limitations. In New York, for example, a savings bank may purchase the bonds of any state, provided that within the past ten years the issuing commonwealth has not been in default more than ninety days on the principal or interest of any obligation issued since 1878. Of course there must be no default at the time the bonds are purchased.

A group of quotations of state bonds, furnished by Redmond and Company of New York City, as of August 29, 1916, is as follows:

	Price	Yield
State of Tennessee 4's, 1928	101	3.90%
State of S. Carolina 4's, 1952 (optional 1932)	101	3.90%
State of Maryland 4's, 1924	101¼	3.83%
State of California 4's, 1928	101	3.90%
State of Georgia 3½'s, 1928	97	3.80%
State of Louisiana 5's, 1928	105¾	4 ⅜%
State of Mississippi 4½'s, 1931	104½	4.10%
State of New York 4½'s, 1964	115	3.83%
State of New York 4's, 1960	105	3.73%
State of Massachusetts 3½'s, 1938	94¾	3.85%

3. *Municipal bonds.*—The term "municipal bond," in investment circles, covers the financial obligations of practically every type of local subdivision. Bonds of counties, townships, boroughs, parishes, school districts and a great variety of special assessment districts are embraced in this class. It was estimated

[1] A state, like the Federal government, cannot be sued without its consent.

in 1913 that the total amount of outstanding bonds of cities, villages and towns alone was $2,985,555,484. The purposes for which these debts are contracted are to build schools and other public buildings, to build sewers, to pave and improve streets, to acquire waterworks, or to refund existing issues. An important cause of the increasing output of bonds is the increase of that class of service rendered by cities which requires property or permanent physical improvements. The increase of issue does not involve a deterioration in the quality, as between earlier or later issues. All public bonds of the same class stand upon an equal footing, irrespective of the date of issue.

To some extent municipal bonds are taking the place once occupied by railway bonds. They are bid up against private investors by the legal limitations under which trustees invest, by the restrictions placed by state legislation upon the investments of insurance companies since the insurance scandals of 1905, by the legislation of 1910, which made state and municipal bonds acceptable as security for postal savings deposits (railway bonds being debarred), by the exemption of Federal, state and municipal bonds from the operation of the Federal Income Tax, or even the necessity of declaring them under that law, and by the exemption from taxation granted by many states to the issues of their own municipalities. Some causes of the growing popularity of municipal bonds with all classes of investors are given by Mr.

Howard F. Beebe of Harris, Forbes and Company, as follows:

(a) The long-standing prejudices have gradually worn away under the better understanding of the reasons for old defaults and repudiations, and the knowledge that there will be no repetition of those unfortunate conditions which brought them about.

(b) A realization that they can be marketed under unfavorable financial conditions as well or better than other forms of property.

(c) The enlightenment which has come in recent years on the fundamental weaknesses of all private or corporate securities as compared with the fundamental strength of securities payable by the taxing power.

(d) The relatively good income which may now be had from an investment in this class of security.

(e) The obvious advantages under the Federal income tax law, and the certainty that this tax will grow heavier rather than lighter.

(f) The growing scope of municipal functions insures a steady supply of all grades of municipal bonds.

(g) The steadily improving laws governing issuance and payment of public debts.

4. *Municipal bonds and savings banks.*—Municipal bonds, as a class, are regarded highly as conservative investments. In each instance the credit of the issuing municipality is to be taken into consideration, just as the credit-standing of an individual or of a corporation is to be considered before accepting a note or purchasing bonds or stock. The restrictions imposed by the New York legislature on the investment of savings bank funds in this type of security may be taken by the private investor for his own guidance.

Savings banks in New York may invest in the bonds, interest-bearing obligations or revenue notes, sold at a discount, of any municipality or school or poor district of the state, provided such obligations were legally issued. The bonds of incorporated cities of other states are also made legal investments, with certain restrictions. The bonds must be those of a city of not less than 45,000 population, in a state that was admitted to the Union before 1896, and which has not repudiated or defaulted in the payment of interest or principal of any obligation since 1861. It is required that the city shall have been incorporated for more than twenty-five years before the making of the investment, and that it must not have made default since 1878 for more than ninety days in the interest or principal of any obligation. Another important provision is that when the indebtedness of a city, less its water debt and sinking fund, exceeds seven per cent of the taxable valuation, its bonds shall cease to be an authorized investment until the indebtedness is reduced within the seven per cent limit.

5. *Fluctuations.*—In spite of the special demands for municipal bonds spoken of above, and their popularity as an investment, they have responded to the pressure of the decreasing purchasing power of gold, and have increased in percentage of yield in recent years. Response to the interest rate, modified by the existing conditions regarding banking reserves, especially of country banks, is the law governing the fluctuations of price.

The yield of first-class municipal bonds in September, 1916, ranged from 3½ to 4½ per cent. Examples of selected issues, listed by E. H. Rollins and Sons of New York City, on September 1, 1916, are as follows:

Bonds	Rate	Due	Price interest to be added	Yield
CITY OF NASHUA, NEW HAMPSHIRE, Road [1] Tax exempt in New Hampshire. A legal investment for New England Savings Banks.	4	July 1, 1918–19	According to maturity	3.35 3.45
CITY OF ALBANY, NEW YORK, MUNICIPAL AND RIVER IMP.[1] A legal investment for New England and New York Savings Banks.	4¼ 4½	Various, 1927–64	"	3.85
CITY OF SALEM, MASSACHUSETTS (TAXABLE) (SEWERAGE) [1] A legal investment for Massachusetts Savings Banks.	4	February 1, 1925	100.70	3.90
TOWN OF GORHAM, NEW HAMPSHIRE, Waterworks and Sewerage [1] Tax exempt in New Hampshire. A legal investment for Me., N. H., Vt., Mass., and R. I. Savings Banks.	4	July 1, 1925 Optional 1915.	100.25	3.98
CITY OF BELOIT, WISCONSIN, Street Improvement [1] A legal investment for Me., N. H., and Vt. Savings Banks.	5	June 15, 1926–29	According to maturity	4.05
CITY OF WINONA, MINNESOTA, Bridge [1] A legal investment for Me., N. H., and Vt. Savings Banks.	5	Jan. 1, 1927	107.00	4.17
CITY OF LOS ANGELES, CALIFORNIA, Harbor [1] A legal investment for New England and New York Savings Banks.	4½	May 1, 1947	104.71	4.22
TOWN OF TAKOMA PARK, MARYLAND, Municipal	4	May 1, 1930	96.92	4.30
CITY OF NASHVILLE, TENNESSEE, Permanent Improvement	5	March 1, 1935	107.65	4.40
CITY OF PHOENIX, ARIZONA, Municipal Improvement [1] A legal investment for New Hampshire Savings Banks.	5	Jan. 1, 1954 Optional 1934	106.00	4.50

[1] Issues marked with a 1 are eligible to secure Postal Savings Deposits.

6. *Street improvement bonds.*—Street improvement bonds, which are very popular in California, are not municipal bonds or special assessment bonds, because the taxing power of the community is not

pledged. The municipality is involved in perfecting the lien, however, for it superintends the formation of the improvement (paving) district, determines the individual assessments, receives the interest and instalments of principal from the owners of benefited property, when due at the city treasurer's office, and pays them to the holders of the bonds. The law makes the lien for street improvement prior to any other except a lien for general taxes. The claim may be enforced in the Superior Court against the property. It is entirely possible for street improvement bonds to be issued in excess of the conservative mortgageable limits of the property benefited, and even in excess of its market value. It is necessary, therefore, that the prospective investor either inspect the property for himself or risk the skill and honesty of a dealer who makes the selection for him. There is a derivative bond which is based upon original street-improvement bonds placed in a collateral trust fund. These derivatives cure many of the defects of the original bonds just as collateral trust real estate bonds cure the defects of real estate mortgages. The yield from them is from 6 to 6½ per cent.

7. *Special district obligations.*—In many parts of the South and West there is considerable activity in organizing districts for special purposes, such as the construction of levees, the draining of farm lands, the building of irrigation works, and the construction of roads. The powers, debt limits, and points of proper procedure for bond issues by these districts are still

in the process of being determined by legislation, and of being tested in the courts. For the time being, the investor should invest in them only on the advice of a bond house of the highest standing.

8. *Municipalities as commercial hazards.*—When the legal aspect of a municipal investment has been disposed of there remains to be determined the soundness of the economic life of the locality. Credit is based not only upon the willingness and the legal permission to pay, but upon the financial ability to do so. The schedules for an investigation of the general condition of a municipality, such as would be made by a first-class bond house include: 1, physical characteristics—location, area; 2, population—nationalities, growth; 3, appearance of the business, manufacturing, residential and agricultural sections; 4, government—formation, organization, character of officials; 5, schools—organization, bonded debt, sinking funds, value of property, statistics of attendance; 6, public utilities and improvements—water, sewerage, light, gas, street pavements, curbs, sidewalks, public buildings, parks, hospitals, how financed; 7, resources—mineral, industrial, mercantile, agricultural, financial (banks and their deposits, surplus and undivided profits), transportation facilities; 8, property—true value, assessed value; 9, debt—general bonded, special assessment, floating, debt of coextensive and overlapping municipal areas, debt limits; 10, sinking funds—amounts collected annually, bonds retired annually, repayment provisions of outstanding bonds; 11, taxa-

tion—rate, limits, if limits are established, annual statement of revenue and expenses for five years previous, power to refund, if there are a few dominant industries the percentage of the annual tax paid by each corporation; 12, defaults; 13, bonded debt, litigation and proposed issues.

9. *Population.*—Actual enumeration of population can be obtained from the Federal and the state census. Annual estimates of population can be secured from the Federal Census Bureau. A comparative table can easily be constructed to reveal the progress of a city in comparison with others of its size, character and general location.

Cities	1890	1900	1910	1915
Austin, Texas	14,575	22,258	29,860	34,016
Dallas, Texas	38,067	42,638	92,104	118,482
Denver, Colorado	106,713	133,859	213,381	253,161
Houston, Texas	27,557	44,633	78,800	108,172
Minneapolis, Minnesota	164,738	202,718	301,408	353,460
Portland, Oregon	46,385	90,426	207,214	272,833
Salt Lake City	44,843	53,531	92,777	113,567
Seattle, Washington	42,837	80,671	237,194	330,834
Spokane, Washington	19,922	36,848	104,402	142,990
Tacoma, Washington	36,006	37,714	83,743	108,094

Growth is most sound when it is due to the prosperity of basic industries, such as agriculture, which are reasonably free from style change or from the disturbances of the money market. Diversified manufactures and a strong position as the trading center of a prosperous surrounding population are assurances of permanence. An illustration of a municipal description as found in a circular of Seattle water-fund

bonds, issued by Spencer, Trask and Company of New York City, is as follows:

Important Location. The City of Seattle occupies a unique position in that it is situated upon the shortest route of travel and transportation between the Eastern States and countries of the Orient and Alaska. Its extensive and deep-water harbor is perfectly protected from storms, and is accessible to the largest vessels afloat, at all times and at all stages of the tide.

Population. The United States Census of 1910 gives Seattle a population of 237,194. In 1900 it was 80,671, which shows the enormous strides the city has made in the meantime.

Transportation Facilities. As a shipping center, Seattle is particularly important. It is the American port for a number of steamship lines engaged in the trade of the Pacific, and is in close and regular communication with the various ports of California, Oregon and Alaska. There are about fifty-eight steamship lines operating from Seattle. There are about eight lines operating between Seattle, the Orient, Europe and South America. All the railroads in the Pacific Northwest reach Seattle, the five largest having terminals there.

10. *Financial conditions.*—Mr. Paul Clay has calculated from the Census figures that the average assessed value of American cities is 75 per cent of the true value, and the average debt 7.85 per cent of the true value. He estimates that the per capita debt is $68.24; and that the tax rate is $18.34 per $1,000 of assessed value, or $15.00 per 1,000 of true value. These figures can be used as reference points in judging the relative standing of any particular city.

FINANCIAL STATEMENT OF THE CITY OF BERLIN, N. H. (AS OFFICIALLY REPORTED JUNE 16, 1916)

Total Debt

Funded Debt:		
City of Berlin, N. H., 4's, due May 1, 1917		$ 50,000.00
City of Berlin, N. H., 3½'s, due $3,000.00 annually June 1, 1917, 1922		18,000.00
City of Berlin, N. H., 4's, due $5,000.00 annually Dec. 1, 1916–25		50,000.00
City of Berlin, N. H., 4½'s, due $5,000.00 annually Nov. 1, 1916–1926		55,000.00
City of Berlin, N. H., 4½'s, due $7,500.00 annually July 1, 1916–1933		135,000.00
City of Berlin, N. H., 4's due $4,500.00 annually April 1, 1917–1935		85,500.00
Notes in anticipation of taxes		55,000.00
		$448,500.00
Deductions:		
Tax Notes	$55,000.00	
Sinking Fund	53,942.38	
Cash in Treasury	28,623.39	
		$137,565.77
Net debt		$310,934.23
Assessed valuation, June 7, 1916		$10,612,893.00
Legal debt limit, 5% of valuation		530,644.00
Borrowing capacity		219,710.00
Proposed issue, school bonds (bids to be received June 22, 1916)		40,000.00

11. *Statistical materials.*—The student of American state and municipal finance will find the report of the Bureau of the Census on "Financial Statistics of the States" of great value.

This report shows in detail the financial transactions of the forty-eight states for the fiscal year 1915, the assessed valuation of taxable property in the states, and the taxes levied thereon during that year, and their indebtedness and assets at the close of that year. The financial transactions of the states have been analyzed and are so presented as to show (1) the total and per capita receipts of states from revenues and from the principal classes thereof; (2) the

total and per capita payments of states for expenses, interest and outlays, and for each of the principal classes of expenses and outlays; (3) the total value of state properties; (4) the total and per capita indebtedness of states; and (5) the total and per capita assessed valuation of property subject to taxation.

REVIEW

How can the national banks afford to bid up United States bonds against ordinary investors, beyond investment prices?

What classes of state bonds may New York savings banks purchase?

What circumstances have favored municipal bonds in this country in recent years?

What are street-improvement bonds? What safeguards are essential in purchasing them?

Write up your city as a borrower, according to the outline provided in the paragraph entitled, "Municipalities as Commercial Hazards."

What is the rate of increase of population of your city, comparing the Census figures of 1900 with the latest figures available to you? What is the per capita debt of your city? What is the total tax rate (state and local) per $1,000 of assessed value?

CHAPTER VI

LAW OF MUNICIPAL BONDS

1. *Importance of correct procedure.*—The question of the legality of municipal bond issues is considered by bond houses to be sufficiently complex to warrant the employment of a consulting attorney who makes a specialty of that branch of domestic law. The subject is complicated because it involves the operation of the constitutions and statutes of fifty states and the charters and governing ordinances of over 7,000 municipalities. Great exactness is necessary because valid procedure is something prescribed in detail, and it is definite and exacting in many points, so that an irregularity sufficient to impair or destroy the obligation may readily creep in. The object of this treatment is not to make an expert of the reader, but to give him sufficient insight into the work of an expert that he may know why it is wise to be guided by him.

A municipal bond is valid when it is issued as the result of the lawful and regular exercise of express or implied powers of the issuing municipality; when it is to finance a project which is a public purpose; when the method of local authorization conforms to law; when the form, number, term, recital and all the

other important elements of the obligation are in agreement with existing statutes; when all accompanying requirements, such as that for the provision of a tax, to repay the debt, have been complied with; when the signatures are bona fide and are those of the officers in power at the date of issue; and when such other concomitant acts as may be prescribed for the state government, such as the registration of the bonds, have been performed.

2. *Power.*—The two matters of controlling importance with reference to the legality of municipal bonds are the question of the power to issue, and the question of the effect of the representations contained in the bonds, when they come into the hands of bona fide purchasers for value. The holder of a corporation security must take notice of the organic law creating that corporation and the powers it grants. This law involves the state constitution, the statutes, the charter powers of the municipality and the implied powers which may be recognized by the courts. The investor cannot expect that the courts will recognize a municipality to be possessed of powers it did not have, in order to validate his security, or that legislatures will pass *ex post facto* laws with the same object in view. A defect in power to issue is therefore fatal.

3. *Purpose.*—No tax can legally be authorized by a legislature or imposed by a municipality for any other than a public purpose. A bond issue for aiding in the construction of railways has generally been

held to be legal, but the history of "aid" or "bonus" bonds is one of misfortune. Frontier communities have often been carried away by enthusiasm and have overloaded themselves with debt so that the way of escape has been by repudiation or compromise. Such bonds are not dealt in, therefore, by the best bond houses. In all cases, the issue of bonds for purposes of this sort is not an implied power, but one which must be expressly granted. It has been granted in Vermont, Nebraska, South Carolina and Minnesota. A number of states have passed acts expressly forbidding public aid of railroads or other private enterprises by the giving of bonuses, or the purchase of stock, or the loaning of public credit by guarantees. In recent years few railway aid bonds have been issued. Some western communities, however, have issued bonds to aid the beet sugar industry. The legal standing of these issues is precarious.

A state law may require a statement of the purpose of a bond issue to be incorporated in the instrument. If this is the case the purchaser is bound to take notice not only that the purpose is expressed but that it is lawful. The Massachusetts laws of 1913 and 1914 permit cities and towns to incur debt within the prescribed debt limits for sewers, parks, school houses, municipal buildings, departmental equipment, bridges, sidewalks, the construction and paving of streets, walls or dikes for the protection of highways or property, cemeteries, and for the conserving of public health. Outside the debt limit bonds may be issued for tem-

porary loans in anticipation of revenue, for water works, gas works, and electric light plant, and for playgrounds.

4. *Debt limit.*—The taxpayer has made felt his desire to limit public expenditures in a number of ways. Among these are the requiring of a popular vote to authorize bond issues, the endowing of the mayors of cities with the veto power, the establishing of special boards of control such as the New York City Board of Estimate and Apportionment, statutory debt limits, and now, more recently, various limitations inserted in the state constitutions beyond the reach of legislatures. In Iowa, a debt limit of 5 per cent of the last preceding assessed valuations has been established. In Alabama, counties cannot exceed 3½ per cent of assessed values. Towns of less than 6,000 population are limited to 5 per cent, and larger places to 7 per cent. The limit is 2 per cent of assessed values in Indiana, in Missouri 5 per cent, in Pennsylvania 7 per cent, and in Ohio 8 per cent. In Massachusetts, cities cannot exceed 2½ per cent and towns 3 per cent of the average assessed value of taxable property for the preceding three years. A 10 per cent limit is set in New York, a 15 per cent limit in New Jersey, Kansas and California, an 18 per cent limit in Virginia, and a 30 per cent limit in Kansas. The variation of these ratios shows that no very clear ideas yet dominate legislation, and that where assessed values are involved, it is on an exceedingly shaky and amateurish basis.

In the calculation of debt limits, it is customary to exempt sinking funds, water debts, and special assessment bonds which do not permit recourse against the municipality. The Massachusetts law permits electric light bonds to be issued in excess of the debt limit provided they are not over 5 per cent of the valuation for towns, and not over 2½ per cent of the last assessed value for cities. Playground bonds may be issued also in excess, provided they do not exceed ½ of 1 per cent of the last assessed values. In a number of states having constitutional debt limit provisions, the law has been circumvented by the creation of special road, water, light and other separate districts.

5. *Term.*—The term of municipal bonds should not outrun the life of the improvements for which they are issued. The Massachusetts regulations are thus summarized by William L. Raymond, in his book "American and Foreign Investment Bonds":

> In the Massachusetts laws, the length of time which bonds may run is based, as far as is practicable, on the permanence of the work for which the money is spent. For instance, bonds issued for the purchase of land for parks or playgrounds give the city a permanent asset. Bonds issued even for school-buildings alone give the city property with a life probably of at least twenty years; whereas bonds issued for sidewalks may give the municipality property which will have to be replaced or rebuilt within a short time. The limitation to ten years of bonds issued for cemetery purposes is based probably on the minimum estimate of the length of time the land will be available for cemetery purposes.

6. *Authorization.*—In many states it is necessary to authorize bond issues by an election held in the community. This is especially the case when the issue exceeds a given minimum. The prescription runs in a variety of forms. A majority of voters must signify their approval in Pennsylvania, a majority of property taxpayers in Utah, a two-thirds vote is required in Missouri and a three-fifths vote in Oklahoma. Such provisions must be substantially complied with in issuing bonds in order to insure their validity. Since the details of elections offer abundant opportunities for irregularities which will endanger the lien of the bonds, it is greatly to be desired that the current practice of depending upon the opinions of legal experts should give way to some system like that used in Pennsylvania, where a court canvasses the election and makes a declaration as to its regularity.

7. *Sale.*—Legislatures may prescribe the method for the sale of bonds. Usual provisions are a sale to the highest bidder, after advertisement, or a sale not below par. Lack of compliance with such restrictions, however, does not invalidate bonds which are in the hands of innocent third parties who are purchasers for value. Municipalities often circumvent the laws, prohibiting the sale of bonds below par, by allowing the bond houses to submit liberal bills for services rendered in legal investigation or the printing of the bonds. In New York State the sale of

village bonds must be to the bidder who offers to take the bonds at par at the lowest rate of interest. The result is the existence of issues of bonds with interest rates expressed in complicated fractions.

8. *Execution.*—Purchasers of municipal bonds must take the risk that the signatures of the officials are genuine, and that those who sign have the actual authority to do so. Recitals in the bonds may serve as an estoppel on matters of fact but not on matters of law, and the law authorizes only the proper officers to attest bonds. When officials change during the process of issuing bonds a question arises as to who should sign. The accepted rule is that the bonds should be signed by those who are in office at the time of the actual delivery and payment. Bond houses depend upon affidavits giving the names of the officers and their terms of office.

The blank employed is substantially as follows:

I, ..., Cashier of the .... National Bank, of ...., State of ...., hereby certify that I am personally acquainted with

Officials' Signatures { ....Mayor
................................City Clerk

and with their respective signatures as signed above; and that I know the persons aforesaid were on the ...... day of ...., 1... (giving dates of Bonds hereinbefore named), and now are the officers of .... indicated by the titles appended to their respective names on the .... Bonds of said .... dated ...., A. D., 1....

And I hereby certify that I have examined and identified the signatures to the Bonds above named, numbered from

...... to ......, inclusive, amounting to $.........., as the signatures of the officers herein indicated, and are the only signatures on said Bonds.

Dated at ...., State of ...., this .... day of ...., 1....

...............................,
Cashier of .... National Bank.

Against overissue and forgery the usual reliance of the investor is the guarantee of the trust company. For Texas bonds such a guarantee is not necessary, for in that state the attorney-general certifies to the regularity of the issue of bonds, and in so doing makes the issue incontestable on the ground of faulty execution.

9. *Validation.*—Judge Dillon in his work on "Municipal Corporations," has said: "In all or nearly all the cases in the Supreme Court of the United States, that tribunal has held that the municipal or local officers were constituted the judges to decide whether antecedent or preliminary steps or conditions had been complied with, and that their decision, stated or implied in the recital, was conclusive against the corporate maker when the bonds have found their way into the hands of innocent holders." The state courts have not been so generous.

The machinery of state government has been used to validate bonds in two ways. The first is by act of the legislature to remedy defects. In the absence of constitutional limitations the power of the legislature to enact such retroactive statutes is conceded. Such legislation, however, has not been uniformly upheld

by the courts. The second means is by the registration of the bonds with some designated executive department of state. Such a system is employed in Kansas, Texas and Oklahoma. Where the registering officer is under obligation to deny registration in case there are irregularities, holders in good faith are not bound to go behind such registration, unless the bonds show defects on their face.

10. *Repayment.*—Clauses are now frequently found in state constitutions providing that no indebtedness shall be incurred unless an annual tax sufficient to pay the principal and interest is provided. Where such a restriction is found in conjunction with limits on taxation, the effect is to cut down the borrowing power of municipalities.

The common method of providing for the repayment of principal is by means of annual levies. To retire an entire issue of bonds in this manner calls for the accumulation of a sinking fund. Such funds are not as a rule kept closely and scientifically invested. They constitute a perpetual invitation to fraud and the misappropriation of funds. The modern substitute for the sinking fund is serial payment.

In the case of serial bonds the Investment Bankers' Association of America believes that payment should be made within forty years. In the first two years of the life of the bond there should be no payment of principal, but after that annual payments approximately equal in size should reduce the principal until at the end of thirty-eight years it is extinguished.

A frequent method is to make the payments on account of principal and interest the same each year. In this case, as times goes on, the part of this lump payment which is applied to the principal increases.

While a term of forty years is looked upon as a maximum, there are cases in which conditions indicate a much shorter term. Bonds payable in whole or part out of special assessments should mature within ten years, or in any event in a number of years not exceeding the probable period of the usefulness of any improvement on property for which such bonds were issued.

11. *Obligation.*—It is of the utmost importance for the investor to observe whether a bond is a general obligation of a municipality, so that the full taxing power is pledged, or whether the lien is upon a special fund only. Unless a bond expressly states that it is payable from a special fund, or cites a law which confers the power to issue for a special purpose only, it is a general obligation.

A large proportion of the defaults during recent years are special assessment bonds. These defaults have been due to various causes. Among such causes are the organization of districts being found unconstitutional, a finding that objects for which the bonds were issued were not public purposes, defects in the procedure connected with issue, failure to raise special funds or the misappropriation of these funds for other purposes, failure to provide for proper repair or maintenance of the productive property pledged,

and the bonds outliving the improvements secured thru them.

An illustration of special assessment bonds may be found in the City of Olympia, Washington, 6 per cent Water Works Gold Bonds of January 1, 1916, amounting to $110,000 due serially from January 1918 to January 1935. The circular of these bonds described the lien as follows:

The City of Olympia irrevocably pledges the entire gross revenue of its water system as now owned or may hereafter be added to, to provide for the payment of the principal and interest of these bonds, upon which they constitute an absolute first and prior lien.

The average annual gross revenue of the water system of the City of Olympia for the past five years was $32,-923.47. Not only are these revenues ample for the principal and interest requirements of this issue, but in addition, there is available a large balance for the proper maintenance of the system and liberal betterments thereto.

The continuance of this income is guaranteed by the City's agreement to maintain rates and charges for water, including that used for city purposes, sufficient to pay principal and interest of these bonds as the same mature. It is also obligated not to sell, lease, or in any manner dispose of its waterworks system without making due provision for the payment of these bonds and to provide for the operation and maintenance of the plant as long as these bonds are outstanding.

The yield of special assessment bonds is approximately 1 per cent higher than that of general obligation bonds.

In contrast to the foregoing description of special assessment bonds, an example of bonds which are

general obligations of the issuing municipalities is given below. This issue is the School District 4½ per cent bonds of Cleveland, Ohio, dated January 18, 1915, and due in 1927 and 1935. The information concerning the lien contained in the circular was as follows:

FINANCIAL STATEMENT

Actual value, estimated		$900,000,000
Assessed valuation, officially estimated 1915		885,000,000
Total bonded debt, including this issue	$6,949,500	
Sinking Fund	771,318	
Net bonded debt		6,178,182

Population, U. S. Census, 1910, 560,663; 1900, 381,768; population, 1915, estimate, 700,000.

Net debt less than ¾ of 1% of assessed valuation.

THE CITY OF CLEVELAND is the largest city and the leading commercial, manufacturing and financial center in Ohio, and is the sixth largest city in the United States. The Federal Reserve Bank for the Fourth District is located at Cleveland and there are thirty-three other banks and trust companies, with combined total deposits of more than $300,000,000. In addition to its extensive commerce upon the Great Lakes, Cleveland is served by the following railways: Baltimore & Ohio; Cleveland, Cincinnati, Chicago & St. Louis; Erie; Lake Shore & Michigan Southern; Newburg & South Shore; New York, Chicago & St. Louis; Pennsylvania; Wheeling & Lake Erie, which furnish excellent transportation facilities. A large number of interurban electric railways also radiate from Cleveland thruout the surrounding territory. According to the Federal census, the population of Cleveland increased 46 per cent in the decade, 1900 to 1910.

These bonds are a direct obligation of the City of Cleveland School District, which embraces all of the City of Cleveland and some adjacent territory, and are payable

from taxes levied against all of the taxable property within the district.

It is now considered to be better policy for a municipality in issuing bonds for special improvements to pledge its general faith, even tho the cost is to be charged against the property benefited rather than to issue special assessment bonds. This has been made the policy of the State of Ohio which has a law reading: "To provide for any deficiency in the payment or collection of —— assessments as the same fall due, the council of the issuing municipal corporation shall, prior to the issuance of the bonds . . . provide for the levy of a tax upon all the taxable property of said corporation."

12. *Warrants.*—A warrant is an order of any officer or body with authority to review a debt, upon a municipal treasurer directing him to pay a claim out of any funds lawfully available for the purpose. A city is charged with the obligation to raise the necessary fund, but it is not estopped from pleading fraud, want of consideration or *ultra vires.*

13. *Defects and defaults.*—It is rare that an issue of a series of municipal bonds is made without some defect connected with the proceedings. In the attempt to prevent these defects from exerting a serious effect, it is customary to embody in the bonds certain curative recitals. Such recitals are that the proceedings are regular, that the indebtedness is binding, that the total indebtedness does not exceed legal limits, and that the city possesses the power to

levy the authorized tax. A second bulwark of safety is the United States Supreme Court. This court, says Judge Dillon, "Has upheld the rights of the holders of municipal securities with a strong hand, and has set a face of flint against repudiation, even when made on grounds deemed valid by the state courts, as well as by the municipalities." In spite of these safeguards, and of remedial legislation and state registration, there are occasional defaults. The investor should add one more important safeguard. He should buy municipal bonds only of a thoroly equipped and reputable bond house, or of distributors securing their supply from such a source.

REVIEW

State, in a general way, when a municipal bond is valid.

What purposes of issue are reasonably safe? What ones are dangerous? What purpose would be absolutely illegal?

In what ways is the debt-incurring power of municipalities limited by law?

In what various ways are statutory debt limits stated and calculated?

What are the risks connected with execution and how are they investigated or assumed for the investor?

What is the point to be specially observed with reference to state registration of municipal bonds?

What different types of municipal obligation are there?

CHAPTER VII

PUBLIC BONDS OF FOREIGN ORIGIN

1. *Canada; development of field.*—It has been said that Canada is now, industrially, where the United States was in 1875. If this is so we may name certain features in which it is much better off than this country was then. It has not the unsound banking, the railway wrecking, and the defaulting of states and municipalities which characterized the United States in the seventies. The Dominion has an abundance of free land of standard quality still unoccupied. It has unmeasured forests and an immense variety of mineral resources, altho the supply is rather scattered. Before the European war Canada received a steady stream of high-class British immigration and a supplementary stream of inflowing British capital. These are now cut off, but their loss is temporarily compensated for by the special demands of Europe. Canadian trade in the latter part of 1916 was 25 per cent above the average of the last five years. The basic nature of Canadian industries, the excellent banking laws and strong banking organization existing there, the availability of American capital in increasing quantities and the general conservatism which marks the temper of the people, all combine to insure a prosperous future.

Dominion bonds which, in 1912, were yielding 3½–3¾ per cent, yielded at the beginning of 1918, 6 per cent and upward.

An August 1916 quotation was as follows:

Security	Bid		Asked	Approximate Yield
Dominion 5% Aug. 1917	100⅝	—	100⅞	4.05
Dominion 5% Apr. 1921	99¾		100	5.00
Dominion 5% Apr. 1926	99¾		100	5.00
Dominion 5% Apr. 1931	100		100½	4.90
Dominion 5% (Internal War Loan) Dec. 1925	97		98½	5.20
Government of Newfoundland 5% July 1916	97½		98½	5.50

2. *Canadian provinces.*—The provinces of Canada may be divided into three classes. The conservative eastern division includes Quebec and Ontario, the progressive Middle West is represented by Alberta and Saskatchewan, and the speculative Far West is typified by British Columbia. This classification is very similar to that which would be made in comparing eastern and western states in the northern portion of the United States.

Taking Manitoba and Saskatchewan as types of that which is peculiar to Canada in comparison with our states in finance, we may begin by observing that the governments are sustained by revenues from the sale of lands and other sources and do not levy general direct taxes. With the recent falling off in land receipts, due to the decrease of immigration, temporary deficits have appeared.

There are two marked features in the expenditures of these provinces. The first is the loaning of their

credit to aid in railway construction, railway bonds being guaranteed in exchange for mortgages taken on branch lines, bridges and terminals. No actual expenditure has ever been necessitated on account of these guarantees, and the branch lines are considered to be profitable properties. The second feature is the aid extended by the provinces to cooperative enterprises, such as elevator companies and creameries. These enterprises have been prosperous and have aided greatly in the development of agriculture. The provinces own their telephone systems and operate them at a small profit. It is altogether likely that in the near future there will be some form of financial aid extended to cooperative rural credit associations. In these ways the provinces have made their securities much like those of great land, railway, and public utility corporations. The per capita debts are high, but they seem justified by the need for markets and equipment, and the possibilities of growth.

The following is the essential portion of the circular prepared for the marketing of $5,475,000 of five-year 5 per cent gold debentures by the Province of Manitoba, February 1, 1915:

In a letter dated February 6, 1915, the Provincial Treasurer states the assets of the Province of Manitoba consisting of Dominion Government Credits, certain lands, buildings, telephones, grain elevators, etc., as		$58,670,382
Total direct debt (including present issue) as		21,196,311
Of which issued for Telephone system (self-supporting)	$11,052,327	
For Grain Elevator system (self-supporting)	1,495,384	12,247,711
LEAVING DEBT INCURRED FOR NON-SUPPORTING PROPERTIES		$ 8,948,600

In connection with the Telephone debt in the foregoing table, it is important to note that in addition to being self-sustaining the Treasurer reports that there has been accumulated out of surplus Telephone revenues a reserve account amounting to $731,515 and that there is also on hand, of the monies raised for the purpose of extensions $573,598.

As part of its yearly revenue the Treasurer further reports that the Province receives annually from the Dominion Government as interest upon Capital Account and various Statutory Allowances $1,406,204 and he states that this will increase from time to time as the population of the Province increases.

. . . .

Manitoba, in common with other Provinces of Canada, has contingent liabilities represented by guarantees which it has affixed to certain issues of Railroad Drainage and Municipal Bonds stated by the Treasurer to amount to $31,794,542. With respect to such guarantees the Treasurer advises us that the Province has never been called upon to make any payment with respect to the railroad bonds, the obligation of which he states is fully secured by first mortgage, and that as to the drainage and municipal bonds so guaranteed, levies are made yearly not only to provide for interest, but also for sinking funds.

The official reports show that the receipts from the various Provincial Departments, such as Public Works, Telegraph and Telephones, Provincial Lands, etc., together with the Dominion of Canada subsidies, have been more than sufficient to cover all expenses chargeable to Income and the interest requirements of the Provincial Debt *without recourse to direct taxation.*

That the Province of Manitoba, altho the most easterly and oldest settled of the "prairie provinces" of the Dominion of Canada, is only on the threshold of the general development still awaiting it, is shown by the fact that the land within the Province now under cultivation is equivalent to only approximately six per cent of the total land area of the

Province. Manitoba's annual production of oats, wheat and barley is already close to 180,000,000 bushels, in addition to which indication of strength in cereal products, diversified and mixed farming have already resulted in an important and steadily increasing production of flax, potatoes, dairy products and live stock. Moreover, there is a large and increasing manufacturing business, which in Winnipeg, the chief provincial center of that business, already has an estimated annual value of $40,000,000.

In August, 1916 (the 28th), the list of quotations, as issued by Mr. W. Sturgis Macomber of New York City, was as follows:

Security		Maturity	Bid	Asked	Approximate Yield
Province of Quebec	5	Apr. 1920	99	100½	4.83
Province of Quebec	5	June 1926	New issue	100¾	4.90
Province of Ontario	5	Feb. 1920	99¼	103¾	4.80
Province of Ontario	5	June 1926	New issue	101¼	4.85
Prov. Nova Scotia	5	Jan. 1926	New issue	101⅛	4.85
Province of Manitoba...	5	Feb. 1920	98	99½	5.15
Prov. of Saskatchewan..	5	May 1921	New issue	98.91	5.25
Prov. of Saskatchewan..	5	May 1926	New issue	98.07	5.25
Prov. British Columbia..	4½	Dec. 1925	91½	93¼	5.42
Prov. New Brunswick...	4½	Dec. 1925	95	96¼	5.00
Prov. New Brunswick...	5	Dec. 1919	99½	100¼	4.93
Prov. of Alberta........	5	May 1926	96½	98¼	5.20
Prov. of Alberta........	4½	Feb. 1924	93½	95¼	5.25

3. *Canadian cities.*—Canadian cities in various sections of the Dominion differ in character and credit much as American cities do. There is a marked absence of graft. It is possibly partly for this reason that in the western portion of the Dominion there is a much greater confidence in public initiative, and a greater willingness to extend it into the field of public utilities than exists in the United States. This attitude is logical, however. It is an inheritance from

England, for one thing; and it is natural as the effort of a frontier people to supply themselves with the conveniences of city life before private capital could be attracted, and at a lower capital charge than private capital would exact. Most of these utilities are reasonably profitable. The street railways, however, would probably be found to be breaking barely even, if a strict accounting of maintenance charges were taken. The scrutiny of Canadian municipal balance sheets turns chiefly on the manner in which the debentures issued to finance municipal business enterprises are treated. The per capita debts of Canadian cities are large, and the debt limits, where any have been established, are very liberal.

The 1916 financial statement of Montreal, which will serve as a type of the eastern city, was as follows:

FINANCIAL STATEMENT

Net valuation for purposes of taxation		$615,377,408
Valuation of property exempt from taxation		216,477.676
Total Valuation		$831,855,084
Total Funded Debt, including this issue, 1916		96,800,465
Expenditures for account of waterworks system and distribution	$17,957,126	
Sinking Fund	1,491.761	19,448,887
Net Debt		$77,351,578
Population, estimated, 1916	600,000	
Dominion Census, 1911	470,480	
Dominion Census, 1901	267,730	
Per capita debt, less sinking fund		$158.85
Per capita debt, less sinking fund and public utility debt		$128.92

The financial statement of Edmonton, Alberta, which may be used as a type of West Canadian city, as of December 31, 1915, was as follows:

Assessed value for taxation		$190,646,270
Exemptions not included above		18,418,910
General debenture debt		20,598,071
Less, Sinking funds	$2,161,395	
Light debentures	859,923	
Power debentures	2,043,364	
Railway debentures	3,000,726	
Water debentures	1,836,717	
Telephone debentures	1,910,150	11,812,275
Net debenture debt		$8,785,796
Local improvement debt, less sinking fund		3,597,067
Public school and separate school debentures, less sinking funds (The school districts are practically coterminous with the city)		3,978,804
Total debt, utility debt		$16,361,667
Total debt with public utility debt, less sinking funds		26,012,547
Value of municipal assets		31,974,396
Population 72,516		
Per capita debt, less sinking funds and less public utility debt		225,63
Per capita debt, less sinking funds		358.71

The difference between this statement and that of Montreal reveals why Edmonton has to pay one per cent more for money than does Montreal.

Mr. W. Sturgis Macomber's quotations on Canadian municipal bonds, on August 28, 1916, were as follows:

Issue		Maturity	Bid	Asked	Yield
City of Ottawa, Ont.	5	July 1925	99½	101	4.87
City of Halifax	5	July 1950	New issue	101⅝	4.90
City of Quebec	5	Apl. 1920	99	100¼	4.92
City of Montreal	5	Dec. 1917	99½	100⅜	4.75
City of Montreal	5	May 1918	99¼	100½	4.75
City of Montreal	5	May 1936	New issue	100	5.00
City of Toronto	5	Serial 1925–48	New issue	101	4.95
City of Calgary	6	Mar. 15, 1918	99	101	5.50
City of Victoria	4½	Jly. 28, 1924	91½	93½	5.50
City of Vancouver	4½	Nov. 30, 1924	91	93⅜	5.50
City of Vancouver	6	Serial 1916–19	New issue	101	...
City of Edmonton	6	Jan. 1921	99	101	5.75
City of Regina	5	July 1929		95	5.50
City of Maisonneuve, Que.	6	Jan. 1918		100	6.00

To these may be added the following quotations as of September 8, 1916:

City of Medicine Hat, Alba.	5	July 1933	89⅜	6.00
City of Niagara Falls, Ont.	5	July 1924–46	97⅛	5.25
City of Windsor, Ont.....	5	July 1940	97¼	5.20

4. *Europe and Latin America—international investment.*—In the space of two years the European war converted the United States into an international market for investments, at least so far as national government bonds are concerned. In order that the wide range of new offerings now spread before the investor may be appreciated, and the extension of the range of American investment study and interest may be indicated, a fairly complete list of the foreign government loans floated in this country from July 4, 1914 to August 15, 1916, is here given.[1]

CANADA AND NEWFOUNDLAND

Montreal, 5%, 3 year debs.	$6,900,000
British Columbia 1 year 4½% treasury bills	2,700,000
Dominion of Canada 5% gold notes, 1 and 2 years	45,000,000
Toronto Harbor, 4½% bonds	1,000,000
Toronto, City of, 5½% Deb. notes	3,000,000
Alberta, Prov. of, 5% Deb. bonds	4,000,000
Ontario, Prov. of, 9 Mo. loan at 3⅞%	2,000,000
Ottawa, City of, 5% 1 year notes	1,000,000
Manitoba, Prov. of, 5% 5 year Debs.	5,475,000
New Brunswick, Prov. of, 5% 5 year bonds	700,000
Sault Ste. Marie, City of, 5% 30 year Debs.	500,000
Ontario, Prov. of, 5% 5 year bonds	3,000,000
Calgary, City of, 3 year treasury notes	2,000,000
Saskatchewan, Prov. of, 5% 3 year bonds	2,500,000
Saskatchewan, Prov. of, Further issues arranged for	3,500,000

[1] This list is based upon the period July 4, 1914—September 15, 1915, as published in the Bulletin of the Investment Banker's Association of America for September 30, 1915; and upon a supplementary list extending to August 15, 1916, furnished the writer by Mr. R. M. Byrnes, Asst. Cashier of The National City Bank of New York City.

Quebec, Prov. of, 3 or 5 year 5% bonds	6,000,000
Quebec, City of, 5's, 1920	2,125,000
Toronto, City of, 4½% bonds due Jan. 1, 1949–55	2,500,000
Dominion of Canada, 5% 5–10–15 year bonds	75,000,000
Newfoundland, Gov't. of, 5% 3 year bonds	5,000,000
British Columbia, Prov. of, 4½% 10 year bonds	2,000,000
Total Canada and Newfoundland	$175,900,000

LATIN AMERICA

Argentina, 6% notes	$15,000,000
Argentina, 6% treasury bonds	25,000,000
Bolivia, Negotiated with Nat'l City Bank	1,000,000
Panama, Republic of, 5%, 30 year bonds	3,000,000
Argentina, 1 year discount notes, due Feb. 21, 1917	18,500,000
Argentina, 1 year discount notes due Mch. 1, Apr. 1, May 1, 1917	15,000,000
Chili, Bank loan	6,000,000
Yucatan—Sisal Hemp loan	10,000,000
Total Latin America	$93,500,000

EUROPE

France, Notes	$10,000,000
France, 5% bonds	30,000,000
France, Am. For. Sec. Co., 3 year 5% notes, due August 1, 1918	100,000,000
Germany, 5% treasury notes, 9 Mo.	10,000,000
Germany, Discount notes due Apr., 1917	10,000,000
Greece, Negotiated with Am. capitalists	7,000,000
Norway, 6% notes	3,000,000
Norway, 6% 7 year bonds due Feb. 1, 1923	5,000,000
Russia, Negotiated with banking houses	2,000,000
Russia, 1 year 5% treasury notes due May 1, 1916	10,000,000
Russia, 3 year 6½% credit	50,000,000
Sweden, 6% treasury notes	5,000,000
Switzerland, 1–3–5 year 5% notes	15,000,000
Italy, 6% treasury notes due Oct. 15, 1916	25,000,000
Anglo-French, Joint 5% bonds, due Oct. 15, 1920	500,000,000
Great Britain, 1 yr. 5% Banker's Credit	50,000,000
Miscellaneous Credits (mostly French and Russian) and Ger.-Aust. war loans	$150,000,000
Total European	$982,000,000

RECAPITULATION

Canadian and Newfoundland	$175,900,000
Latin American	93,500,000
European	982,000,000
Grand Total	$1,251,400,000

5. *Argentine government.*—On May 15, 1915, The Argentine government offered to American investors thru American banking and investment houses its five-year 6 per cent bonds to the extent of \$25,000,000. On the same date £5,000,000 of the same loan was offered in Great Britain. These bonds are the direct general obligation of the Argentine government. The funds are used in refunding certain short-term notes and in continuing the construction of sanitary works for Buenos Aires. These works are part of a national system of sanitary improvement. In 1913 the external and internal funded debt of Argentina amounted to \$525,493,137, or less than \$69 per capita, and the interest and the sinking fund required 23 per cent of the revenues of the government. In normal times bonds similar to those of this issue sell on approximately a 5 per cent basis.

6. *Anglo-French joint loan.*—One of the most unique financial transactions in history was when France and Great Britain joined to issue \$500,000,000 five-year 5 per cent bonds. Dated October 15, 1915, and due October 15, 1920, they were offered at 98 and interest yielding nearly 5½ per cent. Principal and interest are payable in New York City in United States gold coin, without deduction for any present or future tax of either government. The bonds are convertible at the holder's option on any date not later than April 15, 1920, or at maturity, provided notice is given before that date, par for par, into 4½ per cent bonds, the joint obligation of

the two countries, maturing in 1940, but redeemable in 1930 and thereafter. Considering the price record of British Consols from 1907 to 1914, a 4½ per cent 15 year bond would have ranged between a high level of 120.44 and a low level of 110. The conversion privilege seems, therefore, to hold out the promise of considerable profit.

7. *Russian roubles.*—The Russian government on February 1, 1916, offered a portion of its 2,000,000,000 roubles 5½ per cent Short-Term War Loan, due February 1, 1926, thru American bankers. The bonds are accepted on government contracts, on the deferred payments of excise, and to use as a bond for customs duties. They are permanently exempt from Russian income taxes. The holders may exchange their bonds at par for any internal loan bonds which may be issued during 1916 for an equal or longer term. Such a bond for 1,000 roubles was purchasable in New York City in August, 1916, at $325, the rouble being quoted at about 31 cents. The recent price fluctuations of the rouble in New York Exchange have been

	Low	High
1913	51¼	51 11/16 cents
1914	42	51¾ "
1915	29¾	44⅞ "
1916 (Jan. 1–June 30)	29½	32¼ "

The mounting of exchange against Russia was not due to the decline of Russian credit, but to the violent reversal of the balance of trade thru the importation of war munitions into Russia and the cutting off of

agricultural exports. The import and export statistics of recent years will reveal what has happened.

Year	Exports in Millions of dollars	Imports in Millions of dollars	Excess of Exports (Ex.) or Imports (Im.)
1911	$818.8	$508.4	220.4 Ex.
1912	781.7	602.5	179.2 "
1913	782.8	707.6	75.2 "
1914	492.3	565.4	73.1 Im.
1915	204.5	573.7	369.2 "

Should the rouble return to normal—that is to $.5146—by the time these bonds mature there would be a profit amounting to $189.60 on each bond, or 58.34 per cent on the investment. This profit is entirely apart from the interest. As exchange operates against the cashing of the interest coupons they could be deposited in a Russian bank and a receipt taken while the owner awaited a favorable ratio of exchange. Arrangement was made to delay the principal payment in like manner. The coupons remained valid for ten years after their maturity, and the bond for thirty years after maturity. The Russian government debt in 1913 was but $23.75 per capita, as compared with $157.46 for France, $92.09 for Great Britain, $77.17 for Italy, $73.06 for Germany, and $67.91 for Austro-Hungary. The Russian Empire has never repudiated or defaulted on its obligations.

8. *American Foreign Securities Company.*—In 1916 the American Foreign Securities Company was organized as an American corporation with a capital of $10,000,000. It arranged to loan $100,000,000 to

France, raising the money by the sale of its bonds. In return it received from France obligations to pay principal and interest of the issue and also, as additional security, a collection of selected collateral composed chiefly of the bonds of neutral European countries. It was stipulated, as a part of the agreement, that the collateral should always be maintained in such amount that the market value of it would exceed the amount of the bond issue by 20 per cent. The Bankers' Trust Company of New York was designated as trustee of the fund. On this basis, the company offered to the public on August 1, 1916, \$94,500,000 of its three-year 5 per cent gold notes at \$98 and interest, yielding the investor 5.735 per cent.

9. *British secured loan.*—On September 1, 1916, a syndicate of American banks offered \$250,000,000 two-year 5 per cent secured loan gold notes of the United Kingdom of Great Britain and Ireland, at 99 and interest yielding slightly over 5½ per cent. These notes are a direct obligation of the issuing government, and in addition they are secured by the deposit of the following securities approved by J. P. Morgan and Company:

Stocks, bonds, and (or) other securities of corporations, organized in the United States	\$100,000,000
Bonds and (or) other obligations of the Government of Canada, either as maker or guarantor, and stocks, bonds, and (or) other securities of the Canadian Pacific Railway Company	100,000,000
Bonds, and (or) other obligations of the several following governments, either as maker or guarantor, viz., of Argentina, Chili, Norway, Sweden, Denmark, Switzerland and Holland	100,000,000

The valuations are calculated in terms of prevailing market prices and rates of exchange. In case of a depreciation in the value of the collateral, the government agrees to deposit additional securities so that the fund shall always be at least 120 per cent of the outstanding notes. The notes are free from all British taxes, present or future.

The floating of this loan assisted in maintaining the equilibrium in the balance of trade. By locking up for two years a vast quantity of British-owned securities which otherwise might have been dumped upon the American investment market, it served to aid in the production of the inflated prices prevailing in the latter part of 1916.

It is to be noticed, however, that in the trust deed securing this issue, the privilege of withdrawing the securities from the trustee upon the deposit of cash is retained by the borrowers. This same provision is found in the deeds securing other foreign collateral loans based on American securities. This privilege makes it possible to unload the securities upon the American public if the boom of the stock market should make it profitable to do so.

10. *Quotations.*—A characteristic quotation sheet of foreign investments, as issued by Bull and Eldredge, of New York City, for August 14, 1916, is as follows:

Issuing Government		Maturity	Bid	Offered	Yield
American Foreign Sec..	5%	Aug. 1919	97⅞	98⅛	5.70
Anglo-French	5%	Oct. 15, 1920	95⅛	95⅜	6.25
Argentine Gov't.	6%	Dec. 15, 1916	100	100½	4.60

Issuing Government	Maturity	Bid	Offered	Yield
Argentine Gov't. disc.. ...	Feb. 21, 1917	96¾	97¼	5.95
Argentine Gov't. 6%	Dec. 15, 1917	100	100¾	5.40
Argentine Gov't. 6%	May 15, 1920	99¾	100⅛	5.95
Imperial Russian Gov't. 6½%	July 1919	100	100¼	6.45
Italian Gov't. 6%	Oct. 15, 1916	99⅞	100⅛	5.40
Norway Gov't. 6%	Oct. 15, 1916	100⅜	101⅛	1.50
Norway Gov't. 6%	Oct. 15, 1917	101½	103	3.75
Norway Gov't. 6%	Feb. 1923	105½	107½	4.75
Swedish Gov't. 6%	Dec. 1916	100½	101¼	2.65
Switzerland Gov't...... 5%	Mar. 1918	99	99½	5.15
Switzerland Gov't...... 5%	Mar. 1920	99	99½	5.10

11. *Scientific distribution of investment.*—These various foreign securities, which are now placed within the reach of the American investor, give him for the first time an opportunity to neutralize the hazard of the violent ups and downs of American finance thru distributing his investments over the international field. The investors of Europe have practised such a system of distribution between countries for some time. The essential principles of distribution have been thus formulated by Sir E. F. G. Law, in the English *Financial Review of Reviews* of November, 1907:

To give fair play to the law of average in the selection of stocks for investment, care must be taken (1) that current dealings in all those chosen shall not be influenced solely by a single market; (2) that they shall be distributed among different countries; (3) that they shall belong to different categories; (4) that the total sum invested should be fairly equally divided among the different stocks; (5) that the number of stocks selected must vary in proportion to the sum to be invested, but should never be less than four or five, in the smallest investments; (6) that each individual stock should, as far as possible to anticipate, offer good security; and (7) that the past history of the stocks selected should

show that the fluctuations of the individual securities have all kept approximately within the same limits of width of variation.

With reference to the first rule, namely, that dealings in investments should not be restricted entirely to one market, the writer says further:

Each market is in turn affected by two main classes of influence—political and economic. If a country is at war, or even threatened with war, the reality or prospect of a large increase in the national indebtedness must affect its credit and the price of its Government stocks, and the depreciation of these must react on practically all other securities which find their chief market on its Exchanges. Again, if the Government of a country should, rightly or wrongly, be considered to be unable or unwilling to protect rights of property, it is evident that capital, if not definitely withdrawn for investment abroad, will be too timid to risk new ventures, and financial and commercial depression with depreciation of stocks will follow in due course. The foregoing are self-evident political causes of financial depreciation which have been frequently exemplified in recent years. As regards possible economic causes, it is sufficient to cite the failure of staple crops, owing to droughts or other unpropitious climatic influences, and the ruin in one country of an important industry thru the development of the same industry in another country under more favorable conditions as, for instance, the crisis in Sicily, due to the successful competition of American with Sicilian sulphur. Any number of economic changes might be quoted which have materially affected the prosperity of various countries at different times, and the result of which has been to limit the investing power of the public and, therefore, to cause a general depression in the respective investment markets. When trade is depressed, savings are restricted and the amount of capital seeking investment becomes very limited; in such circumstances the supply of securities soon exceeds

the demands of investors, and consequently, irrespective of the intrinsic merits of individual stocks, there is a general fall in prices on the Stock Exchange. The advisability of distribution of investments among stocks dealt in on different markets is apparent.

This subject of distribution of investments will be referred to again in the last chapter of this book.

REVIEW

How do the Canadian provinces differ from American states as borrowers?

What is the average yield of the Canadian provincial bonds listed in Section 2? Of the Canadian municipal bonds listed in Section 3?

What are the special characteristics of Canadian cities as borrowers?

Suppose a bond of the Russian short-term war loan were bought July 1, 1916, at $355. The interest in 1916 is paid with roubles quoted at 35, in 1917 at 40, in 1918 at 45, and thereafter at 50. The bond is held to maturity and when it is paid, roubles are quoted at 50. What would be the exact yield?

What are the advantages of secured foreign loans, to lender and borrower, over direct loans pledged by the borrower's faith only?

CHAPTER VIII

SECURITIES OF CORPORATIONS

1. *Assets versus investments.*—It has been said often that, in American corporation finance, bonds represent fixed and tangible assets, preferred stock represents current assets, and common stock represents intangible values, excess earning power and hopes for the future. Real estate and buildings may be represented perhaps up to 80 per cent by bonds. Short-term notes, preferred stock, commercial paper and trade credits represent working capital and money to complete fixed assets to the point where they may be borrowed upon. The margin of property which protects the whole, and the earning power over and above average yields, may be represented by common stock.

2. *Bonds.*—A bond may be described as a formal written obligation, given under seal and bearing interest. Bonds are issued in a series and they obligate the issuing corporation to a repayment of principal after the lapse of the term for which they run. A bond is an obligation to repay a loan to a creditor, whereas a share of stock is the evidence of ownership of an undivided interest in the assets and profits of a business. The essence of the difference is that the

bondholder is a creditor and, in consideration of accepting a low rate of interest, is excused from the risks and responsibilities incident to ownership. On the other hand, the stockholder is a part owner risking his capital on his managerial ability in the hope of gaining larger returns in the form of profits from the business. The true test of a bond, then, is this: Is it so safeguarded and restricted as to the proportion of capital involved and as to the percentage of net income required for fixed charges that, so far as reasonable calculation can estimate, the hazards of business cannot reach it and disturb its return or destroy its security? When this test fails, securities which are called bonds are such technically or in law only, but from the viewpoint of the investor they are not to be classed as bonds.

3. *Denomination.*—The usual denominations of bonds are $100, $500 and $1,000. Recently there has been much agitation in favor of $100 bonds, or so-called "Baby Bonds." It is urged in favor of bonds of this denomination that they promote thrift by putting within the reach of small investors securities which have a higher yield than savings banks deposits, that they will lessen the attractions of get-rich-quick schemes and, finally, that they will "lead to a greater community of interest between the people and capital, prove the best security against demagoguery and assault from self-seeking or sensational propagandists, an incentive to industrial peace and a powerful leaven for the enforcement of a square deal." The

argument against such bonds is that they are inducing people to draw their funds out of savings banks, and to invest on their own responsibility, without regard for the limits and precautions under which the savings banks invest. Since the small investor is unaccustomed to handling his funds in this way, he may make errors which will be very costly to him. It is pointed out, further, that the smaller an investor's capital the larger should be the proportion held as a reserve, available on short notice. To accommodate such investors the savings bank is the ideal institution. An investment in bonds might easily prove not to be sufficiently accessible for investors of the smaller class. Furthermore, the principle of selecting bonds largely on the basis of their denomination, rather than their security and marketability, is a very poor one.

Some bonds which can be had in $100 denominations (the prices and yields being as of May 27, 1916) are as follows:

Issue	Price	Yield Per cent
City of Baltimore, 4s, due 1962	100	4.00
City of New York, 3½s, 4s, and 4½s	Mkt.	4.20
Canadian Pacific Ry., 6% notes due 1924	104	5.20
Norfolk and Western, 1st Cons. 4s, due 1996	94½	4.25
Virginian Ry. Co., 1st Mtg., 50 year 5s, due 1962	100	5.00
Am. Tel. and Tel. Co., Coll. Trust 4s, due 1929	94	4.50
Arkansas Light and Power 1st, 6s, due 1945	100	6.00
Ky. Light and Power 1st, 6s, due 1931	100	6.00
Lincoln Gas and El. Co., 1st Cons. 5s, due 1941	90	5.75
Liggett and Myers Tobacco Co. Deb. 7s, due 1944	125½	5.20
Sherwin-Williams Co. 1st & Ref. Mtg. S.F. 6s, due 1941	100	6.00

4. *Registration.*—Most bonds are provided with interest coupons so that they may be transferred by

simple delivery and the coupons be paid to bearer. A bond may, however, be registered as to the principal. In that case it can change hands legally only by the owner's assigning his bond to the purchaser and by an exchange of the old bond for a new one at the offices of the corporation. At the same time there is a change in the registry on the company's books. Such a bond will have coupons. A bond which is registered as to both principal and interest has no coupons, but the issuing corporation remits the interest by check to the registered owner.

5. *Price and yield.*—The price of a gilt-edged bond depends in part upon when it is to be paid off, and in part upon the rate of interest in comparison with the rate ruling in the market. Of two 6 per cent bonds which are equally secure, one maturing in two years and the other in fifteen years, the latter will command the higher price. Disregarding this element it need hardly be insisted upon that with equal security a 6 per cent bond will be more valuable than a 5 per cent bond. If the ruling rate in the market is 5 per cent, a 6 per cent bond will bring a premium, while a 4 per cent bond will sell below par. The price fluctuation of bonds, from phase to phase of the trade cycle, will be governed by the ease or tightness of the money market. The controlling consideration in the general trend of prices over long periods and from cycle to cycle, will be the changes which take place in the purchasing power of money.

Bonds which involve an appreciable element of

hazard will have their prices fixed as indicated above, except that the price will be lowered as the risk increases.

The yield of the bonds, preferred stocks and common stocks of ten companies, as of August 1, 1916, was as follows:

Corporation	Bond issue	Yield	Preferred stock yield	Common stock yield
Am. Agri. Chemical Co.....	1st 5s	4.72	6.00	5.80
Am. Cotton Oil Co.	5s 1931	5.25	6.05	7.62
Am. Power & Lt. Co.	6s 1921	6.10	7.06	5.78
Am. Smelt. & Ref. Co.	6s 1926	4.11	5.95	6.42
Atch. Top. & S. F. C. A. Ry..	4½s 1962	4.70	6.06	5.83
B. & O. Ry	4s 1948	4.58	5.40	5.85
Bush Term. Co.	5s 1955	5.80	5.45	5.62
Can. Pac. Ry.	Conv. 4s	4.69	4.69	3.95
Central Leather Co.	5s 1925	4.76	6.25	7.37
Liggett & Myers Tob. Co...	7s 1944	5.31	5.84	4.65
Average		5.00	5.875	5.89

For assuming the hazards of the business with rating rights and the possibilities of large earnings in the future, the stockholders in these corporations receive a current income barely one per cent more than that of the bondholders on their investment, if "rights" are left out of consideration.

6. *Security.*—A bond may be unsecured, and so merit the name of debenture rather than of bond. If it is secured the property pledged may be real estate, buildings and equipment; or it may be collateral composed of the bonds, notes, commercial paper or stocks of other corporations. Since a bond is a fixed liability, it should be secured by a pledge of fixed assets only. Secured obligations are attached to a property by a mortgage or trust deed. A mort-

gage is a conveyance of property to an individual creditor with a proviso that upon payment of the debt the conveyance shall be void. A trust deed is a provisional conveyance to a trustee in the interest of a group of creditors. There may be several mortgages on the same property, as first, second and third, or prior lien and junior lien. The various properties of a corporation such as a railroad may be mortgaged separately so that there may exist divisional, extension, bridge, terminal and other bonds. Overlying or blanket mortgages may then be flung over these various subsidiary units so that general mortgage bonds and first consolidated mortgage bonds may be created. Bonds may be put out to replace previous issues. They are known as first refunding mortgage bonds or refunding first mortgage bonds. It is important to notice how the adjectives in these titles are grouped with reference to each other and with reference to the nouns. A refunding first mortgage bond is a first mortgage refunded, but a first refunding mortgage bond is a product of the first process the company has gone thru of refunding a bond secured by a mortgage. Accordingly, it may be far from a first mortgage. It has been estimated, says Mr. Lownhaupt, that 95 per cent in number and value of steam railroad "firsts" are first liens in name only.

7. *Blanket and open-end mortgages.*—An effort is being made by railways and consolidated industrial corporations to simplify their structure of bond issues so that the managements will not be hampered in deal-

ing with the properties and earnings of subsidiary units by the restrictions of a mass of special mortgages and trust deeds. This effort takes the form of drawing comprehensive mortgages for large amounts and reserving a portion of the bonds to retire underlying issues attached to portions of the property as fast as they mature. Still other bonds of the same issue are placed in escrow to finance the construction of additions. In time, as the older and smaller and closed issues are paid off or exchanged, such a general obligation will settle down evenly upon all parts of the property, and become a uniform and comprehensive first mortgage.

8. *Collateral trust bonds.*—The security of collateral trust bonds is a collection of the securities of other corporations or of the issuing corporation; usually bonds, but sometimes a mixture of bonds and preferred stocks, deposited in a trust fund.

There are two ways of forming a new corporation out of a group of smaller ones. Either the existing securities may be exchanged for those of the new corporation, and so the corporate existence of the merging companies be extinguished, or the existing issues may be bought up and deposited in a trust fund, there to serve as security for an issue of bonds, the sale of which will largely finance the merger. The property pledged in a collateral trust fund is usually a collection of securities of subsidiary or auxiliary companies. The pledging is an incident of securing unified control. The quality of the bonds will

match the quality of the collateral. If the collateral is stock the pledging process is an effort to create a bond of one company out of the stocks of other companies, and nothing will result but an averaging or pooling of stock hazards. Protection is usually sought by providing a margin of safety between the value of the stocks in the fund and the value of the bonds issued, by frequent independent appraisals of the securities, and by a provision in the mortgage to the effect that the companies whose securities are pledged shall not issue any new securities with liens ahead of those pledged. Such precautions result in the creation of a security which may be likened to a first preferred stock. The need of frequent examination of the collateral, when it is composed of stocks, may be illustrated by the experience of holders of Rock Island collateral trust bonds. When the stocks of the Chicago, Rock Island and Pacific Railway were pledged, they were earning their dividend by a wide margin. Twelve years later they were hopelessly out of the dividend-paying class.

9. *Debentures.*—Debenture bonds are formal interest-bearing obligations whose security depends upon no specific property, but upon the credit of the company and the surplus earnings over and above interest charges. It is therefore apparent that large issues cannot be marketed except by companies having the highest standing, such as the Michigan Central Railway, the New York Central, and the Lake Shore Railway. This type of security is scarce in

the United States, but is frequently used in Great Britain. Interest is usually not cumulative. The lien along with that of other unsecured creditors comes after bonds and before stock.

10. *Income bonds.*—Usually income bonds come into existence as the result of the scaling down of mortgage bonds in the processes of a railway receivership. They are a claim to a fixed income for a certain period, provided that income is earned, after operating expenses, including maintenance, interest and sinking fund payments on all prior bonds, have been paid. If the income is not paid the only thing that can be done is to enter suit for an accounting; a foreclosure cannot be forced. Accordingly, this security is a sort of preferred stock with a fixed dividend, not cumulative, and not possessing a vote. As a type it is disappearing from the market, for it is the weakest variety of bond. It should be let alone by the average investor.

11. *Convertible bonds.*—Convertible bonds are usually unsecured debentures, the holders of which are given the privilege of converting their security into some other security of the issuing company. The usual privilege is that conversion may be into common stock at par, at the holder's option within ten years. The security thus created is a combination of a loan and an option. If a bond is convertible into stock at $175, like the Union Pacific 20 year convertible 4 per cent bond, due 1924, it means that the par value of the bonds may be applied toward the purchase of the

stock at the price of \$175 per share. It would therefore take \$17,500 in bonds to purchase \$10,000 in stock, or 100 shares. The conversion ratio is then 100: 175. If the stock were selling at \$160, the bond, on its conversion right, would be worth 100: 175 : : x : 160 = \$91.40. If the stock sold at \$200 the bond would be worth for purposes of exchange 100: 175: : x: 200 = \$114.30.

The first convertible bond was issued by the Erie Railroad in 1843. The idea was popular in railroad finance from 1860 to 1880, after which time it fell into the background. Since 1900 it has again come into favor. Convertibles are a means of keeping down fixed charges temporarily by marketing a bond at a lower interest rate than would be accepted otherwise. In recent years they have been a means of insuring the investor against the effect of the declining purchasing power of money by giving him the right to convert his security into one which will share in earnings, and so follow the course of business profits rather than the course of interest rates. Corporations sometimes issue convertible bonds to avoid the necessity of issuing bonds with higher interest rates than their bonds already outstanding. As the conversion takes place when stocks are high, and hence presumably when business is good, this type of bond broadens the stock basis and decreases the fixed charges, as pointed out above. Furthermore, it releases some mortgaged property, and so makes way for new bond financing at a time when additional

funds are likely to be most needed for expansion.

The principle of fluctuation is that when the stocks are at or above the conversion price the bonds rise and fall with the stocks in the ratio that is prescribed for conversion. But when the stocks are below the conversion price the bonds rest upon their security and interest yield as junior liens. Convertible bonds have been called a balloon with a parachute attachment. This peculiarity in the fluctuation of convertible bonds has led to a type of market-scalping in which the trader who anticipates a severe decline goes short of the stock and long of the bonds. His expectation is that if the stock declines the bonds will not do so correspondingly, while if the stock advances the bonds will advance in equal measure if the converting ratio is par for par. The history of the Atchison, Topeka and Santa Fe Railway convertible 4s of 1955 during the decline of 1907 and the rise of 1908 and 1909 furnishes an interesting example. When the movement of these bonds is taken in relation to the fluctuations of common stock (into which the bonds were convertible at par) and in relation to the adjustment 4s due 1995 (similar in character to a junior lien) it can be seen that the convertible bond acted as a junior lien at and below 86, and as a stock above 115, while between these two limits the influence controlling it was a composite of the two.

The manner in which convertible bonds stay up at bond levels when stock prices fall very low, but join

in a rise of stocks above the converting ratio may be illustrated by the accompanying table.

Security	Lowest price of Nov. 1907	Highest price of Dec. 1909
Atchison, Topeka and Santa Fe Ry., Conv. 4s, 1955	80 (66⅜)	123⅛
Atchison, Topeka and Santa Fe Ry., Common stock	66⅜	124
Delaware and Hudson Co. Conv. 4s, 1916	88 (62)	103
Delaware and Hudson Co., Common stock	124	187
Pennsylvania R. R. Conv. 3½s, 1915	84 (74)	96½
Pennsylvania R. R., Common stock	103½	137⅞
United Pacific Ry. Conv. 20 year 4s, 1927	79 (61)	116¾
United Pacific Ry., Common stock	106¾	204½

In this table the value of the conversion privilege of the lowest November stock price is indicated in brackets. The Atchison, Topeka and Santa Fe convertible bond could be exchanged at par. Its conversion price in November, 1907, indicated a value of 66⅜, but it remained up at 80. The Delaware and Hudson convertible could be turned into common stock at 200. Its conversion price in November, 1907, was 62, but it did not go below 88. The Pennsylvania R. R. convertible could be changed into stock at $70, which means, since the par of Pennsylvania stock is $50 per share, at the rate of $140 stock for $100 bonds. The conversion ratio in November, 1907, indicated 74, while the bond did not fall below 84. The Union Pacific convertible could be exchanged at $175. Its conversion value in November, 1907, was 61, but it did not pass below 79. Thus the principle controlling bond values came into action.

In the high market of December, 1909, the Pennsylvania bond had a conversion value of 100: 140::

x: 138 = 98.5. The bond came within two points of its conversion value. The Union Pacific bond at the highest point in December, 1909, had a conversion value of 100 : 175 : : x : 204½ = 117. It will be seen that it reached approximately this price.

Great profits have been made in convertibles by those who invested in them years ago when railway shares were at lower prices. Carefully chosen, they commend themselves as purchases for panic periods.

12. *Short-term notes.*—Short-term notes are debentures of short life, which are more formally drawn than commercial paper and almost invariably secured by the deposit of collateral. American railways have issued them recently by the hundreds of millions, particularly in the year 1907 and the period 1911–1915 inclusive. The term averages from two to five years. They are absorbed chiefly by the banks.

The significance of this security in finance is that when interest rates are high and long-term obligations of low income are salable only at a sacrifice, borrowers are facing an unfavorable market. They therefore resort to a temporary loan, pledging as collateral the bonds they would have preferred to issue, with the hope that at maturity they can refund with those bonds on a more favorable market. The Michigan Central Railway in 1910 tried to sell long-term 4 per cent bonds, but receiving no bid better than 87, they sold in France one-year notes bearing 4½ per cent interest.

The appeal of short-term notes is to liquidate bank-

ing capital. They serve the banks as a portion of the large secondary reserve which it has heretofore been necessary to provide because of the undeveloped character of our machinery for rediscounting. As they do not pass from the banks to investors in any large measure they absorb funds which otherwise would be available for call loans or for three, six and nine-months' paper, and so they serve directly to tighten the money market.

From the investor's point of view it may be said that short-term notes are seldom issued except by railroad corporations of excellent standing. The value of the notes depends upon the quality of the collateral pledged, upon the protection of the trust deed clauses prohibiting the issue of other obligations during their life, and upon the surplus of current earnings above prior charges. The notes invite confidence because of the definiteness with which railroad corporation incomes for a short period may be forecasted. Furthermore, their price cannot fall much below par under the pressure of a high prevailing rate for money, because the date of repayment is so close. They are vigorously bid up against the private investor by banks, trust companies and insurance companies, so that their chief appeal is to serve as "time-money" investments when a general decline in the security market is imminent.

A typical market list of short-term notes, abbreviated from the circular of Bull and Eldredge of New York City of August 14, 1916, is as follows:

SHORT TERM NOTES

Security	Rate	Due	Bid	Asked	Yield
American Tel. & Tel.	4½%	Feb. 1918	100	100⅛	4.40
Anaconda Copper Co.....	5%	Mar. 1917	100½	101	3.25
Brooklyn Rapid Transit Co.	5%	July 1918	100¼	100½	4.90
Canadian Northern Ry....	5%	Sept. 1917	98	99	5.90
Canadian Northern Ry....	6%	July 10, 1917	99¼	100	6.00
Chgo., Burlington & Quincy R. R.	4%	July 1921	97¾	98⅛	4.35
Grand Trunk Ry. of Canada	5%	Nov. 1917	98⅞	99⅜	5.30
Int'l Harvester Co........	5%	Feb. 15, 1918	101¼	101⅝	3.95
Kansas City Terminal Ry.	4½%	July 1921	99¼	100	4.50
New York, New Haven & Htfd. R. R.	4½%	May 1917	99⅞	100	4.50
Northern States Power Co.	6%	Apr. 1926	98	98¾	6.15
Otis Elevator Co..........	5%	Apr. 1920	98	99	5.30
Remington Arms Un. Met. Ctge. Co.	5%	Feb. 1919	....	92½	8.40
Westinghouse Electric & Mfg. Co.	5%	Oct. 1917	100½	101¼	4.05
Winchester Repeating Arms Co.	5%	Mar. 1918	98	98½	5.90

13. *Receivers' certificates.*—When a corporation falls into the hands of receivers, especially if it is a railway or a public utility corporation which must be kept as a going concern, the officer in charge may, with the approval of the court, issue certificates to provide necessary funds. Most of the market supply comes from railway receiverships. There were large issues in 1893 and in 1899. Receivers' certificates are short-term formal obligations and are usually secured. By reason of necessity and by provision of law they rank ahead of the bonds of a system, but not ahead of the bonds of the subsidiary or separable properties of which it is composed. In other words, they rank behind taxes, wages, open accounts for supplies, current expenses and mechanic's liens.

Receivers' certificates are authorized by a court decree. This decree is the document which binds them to the property and it serves the same purpose which a trust deed serves for a bond issue. The underwriting process is similar to that for bonds. At maturity, certificates are either paid off or, as the reorganization is completed, they are exchanged for new securities. The supply is now exceedingly small and the market is inactive. The following quotations, as of September 6, 1916, are given thru the courtesy of Bull and Eldredge of New York City.

	Bid	Asked	Yield
Chicago, Rock Island & Pacific R. R. Co., 5s, due Jan. 3, 1917	..	100⅛	4.50
Chicago & Eastern Illinois R. R. Co., 6s, due Jan. 1, 1917	..	100	6.00
Second Ave. R. R. Co. of N. Y., due Oct., 1914	90	95	...

14. *Retirement and foreclosure of bonds.*—Bonds may be retired in a variety of ways. They may be paid at maturity, called at dates which the original contract designates, redeemed by lot, or purchased in the open market for a sinking fund, after which they may either be kept alive or canceled.

If foreclosure takes place it may be immediate or it may be delayed for a certain period after default. The mortgage securing the second mortgage bonds of the United States Steel Corporation provides that foreclosure shall not take place until two years after default. The West Shore Railway first mortgage stipulates for a lapse of three years. Foreclosure involves bondholders' committees, a group of men who

are more or less regularly nominated, and who serve under somewhat uncertain conceptions of trusteeship. The individual bondholder delegates his rights under the foreclosure to this committee by a power of attorney.

15. *What constitutes a standard bond.*—Among the different classes of securities, bonds may be described as secure as to principal, regular and low in yield, stable as to fluctuation, and in their general drift working toward lower prices and higher yields. The definition of a standard bond has been attempted by Clark, Grannis and Lawrence of New York City:

> A standard bond, perhaps, has never been defined; or if it has been defined, probably it has never been twice defined in identical terms. But the characteristics of such a bond, and the conditions which tend to make it standard, are well known. Among them are these: that it should not be a new issue, nor a small issue, nor a short-term bond; that it should be active, and firm in price without wide fluctuations; that it should be listed on some stock exchange—preferably the New York Stock Exchange, and that the stock of the issuing Company should also be listed, and that it should be a thoroly established dividend-payer; that it should be a coupon bond of usual form, and that it should be a legal investment for savings banks and trust funds in New York and other states having rigid laws restricting such investments. Not all of these characteristics are at all important to private investors. The mere fact that they are important to some institutions and investors makes them sell at a higher price.

16. *Bonds and farm mortgages contrasted.*—To compare the corporation bond with the farm mortgage, it may be said that the security is equal. Safe

mortgaging limits in the main are safe bonding limits, except in the case of such properties as railways and public utilities, where regularity of affairs permits a percentage of fixed charges beyond that which would be prudent in strictly competitive business. The appraisal of the security in the case of the mortgage is easy; in the case of the bond, difficult. This difficulty arises more from restricted access to data than from complexity. The bond is for the longer term, so that altho the interest rate is smaller, the rate remains longer undisturbed. Delay in the payment of interest is rare in one case and frequent in the other. The bond comes in a denomination to suit the investor, the mortgage in one to suit the borrower. Insurance and taxes in one case are looked after by a trustee, in the other case by an agent or by the investor personally. The bond is more readily marketed and forms a better collateral for loans. The bond has greater potentiality of appreciation and depreciation. Its longer life gives a greater number of interest periods for which a change in the rate of discounting can affect the principal. At default the mortgage gives the greater degree of personal control and individual liberty, for the bondholder must act thru a bondholders' committee, and in this day of overlapping issues it is seldom possible for a single issue to act independently of other issues. The mortgaged property is more likely to be manageable by the investor. It may be bid in, operated, or sold again more readily than the bonded property. Foreclosure

of a mortgage may be complicated by sentimental or social considerations; the foreclosure of a corporation bond is more purely a business matter. The foreclosure of mortgages is delayed by state equities; that of bonds, by receiverships which aim to reorganize properties whose services are essential to the public welfare.

17. *Stock.*—Stock is a written, signed, and sealed evidence of ownership in a corporation, and of a fractional claim to its free assets and surplus earnings. The bondholder has a margin of safety as to his principal in the property contributed by the stockholders, or which has been put back into the business out of earnings. The bondholder's interest is protected in the surplus earnings remaining after fixed charges are deducted. The stockholder has no margin of safety unless there be a division of stock into classes. His property is itself the margin.

The par value of most railway and industrial stocks is $100. Reading, Pennsylvania, Lackawanna, Westinghouse Electric and United Gas Improvement are $50 par. In the mining business par varies from $100 down to $1.00, and even to one cent, no sum in multiplication and division being too ridiculous for some of the promoters who harass this industry. When stock is issued fully paid and non-assessable the owner is not liable personally for the debts of the corporation except in the case of bank stock and sometimes of trust company stock (as in New York since 1888).

In America preferred and common stocks are the only two divisions recognized, altho there are a number of companies which subdivide preferred stock into first and second. Apart from very rare cases preferred stocks are preferred as to dividends, the rate of which is designated. They may also be, and usually are, preferred as to assets. The cumulative feature is not a guarantee of dividends, as the following tabulation of dividends overdue will show:

Stock	Dividends overdue (Per cent) May 1909	Feb. 1912	Aug. 1916
Allis-Chalmers Mfg. Co., 7% cum. pref...	31½	56	11½
Am. Hide & Leather Co., 7% cum. pref..	62½	83½	105
Intern. Merc. Marine Co., 6% cum. pref.	42	57	144
Intern. Paper Co., 6% cum. pref.	8	15	33
Am. Malt. Corp. 6% cum. pref...........	10	18	31½

Overdue dividends do not bear interest.

Preferred stock may be callable at the option of the corporation and it may be convertible into common stock at the option of the holder. It may be participating; that is to say, having a right to share equally with the common stock in dividends above a designated and usually equal base rate.

Preferred stock originated in railway reorganizations in the process of scaling down bonds. The popularity of this form of security at the present time may be said to prove that the number of investors who desire protected investments and reasonably assured yields is larger than can be accommodated within conservative bonding limits. Accordingly, a compromise security standing between bonds and stocks is

employed to answer this need without creating a fixed charge on revenues.

18. *Safeguards for preferred stock.*—Various safety devices have been invented to safeguard preferred stock. Two plans commonly employed are the restriction of dividends on the common stock and the provision that no obligations with claim prior to the preferred stock shall be placed on the property except with the consent of two-thirds or three-fourths in interest of the holders. Other safeguards are the provision of a sinking fund to retire the preferred stock, and the stipulation that in case there is a default in dividends the preferred stock shall have voting power.

Too much confidence should not be placed in these safeguards. If a property is bonded to the safe limit, the hazards of the business cumulate upon the margin left for the stockholders. As for the restriction placed upon the issue of prior liens, the preferred stockholders will readily come to the borrowing of money when conditions present to them the option of doing so or of facing a reorganization. As for the provision that current assets must be maintained in an amount at least equal to the par value of the preferred stock, conformity to such a provision is mainly a matter of determining the kinds of items which are to be classified as current assets, and of the methods of making appraisals.

19. *Tests of good preferred stock.*—An investment

in stocks is not so much the hazard of property as the hazard of management, business policies and general business conditions. The tests of a sound industrial preferred stock have been given by Mr. W. Martin Swift as follows:

(1) That increases of capitalization, except for the purpose of acquiring new plants which carry with them a proportionate increase in the volume of business done, should arouse doubts as to the investment value of a preferred industrial; and

(2) That earnings available for preferred dividends, in order to render the issue high-grade, should be about double the dividend requirements;

(3) That in the case of a company having a bonded debt, these earnings should be more than double—increasing somewhat in proportion to the relative size of the debt; and

(4) That working capital as disclosed by the balance sheets should show an increasing tendency, except in years of business depression; and

(5) That these increases should not ordinarily be regarded as genuine unless they are reflected in the prices of the company's securities; and

(6) That bonded debts should not, in any event, exceed 50 per cent of the aggregate market value of the outstanding securities; and that where they exceed 35 per cent, earnings on the preferred stock should be exceptionally large.

20. *Tests of good common stock.*—The tests of a good common stock are, to a greater extent than for a preferred stock, the tests of administration. They may be divided into three categories: the appropriateness of the property and physical processes employed for the purposes of the business, the financial condi-

tions as revealed by the balance sheet and income account, and the mercantile policies involved in selling, credit giving, collections, etc. A somewhat common test is the dividend record. Reference will be made to this in the last chapter of the Text. The test is dangerous for short periods, since one of the surest ways to ruin a property is to pay dividends out of capital or strip a business of its working capital. It is at its best for intermediate lengths of time, say from eight to twelve years, for in such a period the power of the business to weather a severe reaction in trade will be tested. It is unfair as a relative test for very long periods, for few corporations have had a very long life in "changing America." The real test is not the dividend record, but surplus earnings over fixed charges, and the soundness of the judgment displayed in employing them.

REVIEW

What has been the tendency of bond prices in the last fifteen years, and how does the price of gilt-edged bonds tend to be determined?

What safeguards are sometimes introduced to protect preferred stock, and what criticism of these safeguards may be made?

What is the difference between a first mortgage bond and a first refunding mortgage bond or a first general mortgage bond?

What is the purpose of blanket or open-end mortgages in corporation finance?

What are the two principles of fluctuation affecting convertible bonds?

What are the advantages and disadvantages attending the present general use of short-term notes?

Compare bonds and real estate mortgages as investments?

CHAPTER IX

CORPORATION REPORTS: ASSETS

1. *Character of reports.*—All railroads make reports to their shareholders, and uniform reports are filed with the Interstate Commerce Commission at Washington. Most industrial corporations publish reports, altho there is to be found among them the utmost variety, from explicit statements to meager information. Few mining or mercantile corporations publish reports. The inadequacy of the financial information imparted by some companies may indicate the opinion of the management that its earning power depends upon secrecy as to some method or market. Inasmuch as secrets in business which are worth while do not long remain secrets, all securities of companies which maintain a policy of secrecy in their accounts and in the customary data of corporation reports, should be looked upon as too speculative and uncertain for the average investor. A pinched and blind balance sheet is a danger sign.

The facts which an investor needs to know are not such as need be kept secret for the good of the business. They are such matters as the following:

1. That the project is of a permanent character, producing an article or rendering a service which is of merit and which is staple in character.

2. That appropriate physical equipment has been provided for producing the article or rendering the service.

3. That this equipment is being kept up-to-date, in good repair and fully intact as a productive agency.

4. That a conservative valuation is placed upon all assets, and especially upon those of an intangible nature.

5. That adequate current assets are maintained to meet the claims of current liabilities.

6. That there is an excess of current assets over current liabilities sufficient to provide adequate working capital.

7. That accounts are paid promptly and collections made promptly.

8. That fixed charges are kept down to a safe percentage of net income.

9. That there is efficiency in operation, as shown by the proportion of gross income absorbed by operating expenses.

10. That reserves are maintained sufficient to provide for obsolescence and depreciation of physical equipment, possible losses thru uncollectable accounts and other similar contingencies.

11. That, in general, the management is conducting the business upon principles which are fair, candid and far-sighted.

2. *Balance sheet.*—The significant portions of a corporation report are the balance sheet, the income account, and the general descriptive information. A

balance sheet is a systematic statement of the financial condition of a business at a given date, as shown by the books. It is a classified summary of the property holdings and of proprietorship claims to that property. It is important to emphasize the clause "as shown by the books," for the balance sheet sometimes does not represent a business as competent and independent appraisers and auditors would represent it, were they to make a report upon it.

Altho the general scheme of arrangement of accounts in the balance sheet is seldom twice alike in the reports of different corporations, it is possible to formulate a classification of sufficiently broad application to assist in the analyses of financial reports. Thus assets may be grouped according to the classification—fixed, working and trading, current and deferred assets. The liabilities and capital are subject to the following general grouping: capitalization, current liabilities, deferred liabilities, reserves and surplus.

Before proceeding to the discussion of these items it may be remarked that most of the falsifications of the balance sheet, intentional or otherwise, occur in the form of padded or overstated assets rather than in the form of understated liabilities. There are several reasons for this. Outside parties have accounts which tally with the liabilities, so that an understatement of them is more likely to be discovered. Furthermore, the accurate valuation of property is more difficult than the valuation of legal claims. It is

easier to convict a person of fraud in understating liabilities than in overstating assets. It is not a crime for a person to be unduly optimistic about the value of his property.

3. *Fixed or capital assets.*—The first class of assets to be enumerated comprises physical equipment, such as real estate, buildings, machinery and apparatus. It is a practice frequently employed in the financing of certain enterprises to overstate the value of these items as compared with cost or probable selling price. This cannot be said to be due to the lack of proper means of valuation, for the engineering profession has developed fairly accurate means of appraisal.

4. *Intangible assets.*—Another class of fixed or capital assets consists of intangible properties, such as charters, leases, licenses and contracts. Besides these there should be included the value of patents, going value, organization expense (unless allowed for in the valuation of physical plant) and good-will.

In the organization of a business there are expenses other than for materials and labor for the construction of the physical plant. It involves expense to promote an enterprise. Options on property must be secured, a charter, franchises and consents must be obtained, negotiations having to do with making a financial plan and with the underwriting and selling of securities must be carried thru. Patents must be secured, general supervision during construction must be given, interest on money invested during the period

of construction must be foregone, the operating expenses before any revenue begins to flow in from operation must be borne, trade connections must be developed and perfected, and the losses represented in the difference between the revenues of early years and the revenues of a fully developed business must be absorbed.

In certain cases where the property of public utility corporations has been valued for public purchase or rate control an effort has been made to distinguish going value from organization expense. In the Dubuque, Iowa, water works appraisement, Mr. John M. Baldwin drew this distinction as follows:

> Going value consists of the element of earning power which a plant possesses, growing out of its having an assured business in excess of what a new plant starting without any business would have, and it is measured by the sum of the yearly amounts of revenue, reduced to present value, which such plant in operation will produce in excess of what new works of a like character can be made to produce, between the time of purchase and that time in the future when the revenue of the two works become equal; proper allowance being made for differences in cost of maintenance.

In general, the intangible assets, in so far as they are enumerated separately from real estate and buildings and equipment are covered under the heading "good-will." In a number of waterworks valuations, going value and good-will have been estimated at from 9.6 per cent to 4 per cent of the value of the physical property, or from 60.5 per cent to 330.5 per cent of gross revenue. In industrial cor-

porations even these limits are sometimes far surpassed. Among such companies there is the utmost diversity of practice. Instances of great conservatism may be found, as in the valuation of patents, franchises and good-will at $1.00 by the General Electric Company, and by the Goodyear Tire and Rubber Company. On the other hand, the balance sheet of the American Rubber Company includes 38.2 per cent of the total assets under the heading "brands, trade-marks, patents, good-will, etc." In the B. F. Goodrich Company's balance sheet, 60.9 per cent of the assets are under "good-will and patents."

A tabulation of some of the largest good-will entries among American industrials is given below, for the year 1914.

Corporation	Total Assets	Good-Will	Percentage of total assets	Year's purchase [1]
B. F. Goodrich Co.	$94,936,954	$57,798,000	60.9	14½
F. W. Woolworth Co.	74,444,730	50,000,000	67.2	11
Sears, Roebuck Co.	77,725,078	30,000,000	38.6	3½
Studebaker Corp.	56,530,336	19,807,277	35.1	4½
May Department Stores Co.	36,314,167	15,525,310	49.6	9
Underwood Typewriter Co.	18,127,160	7,995,720	44.3	13
Library Bureau	3,999,194	1,500,000	37.5	—

An old rule for the valuation of good-will was to the effect that it should not exceed three years' purchase of the net income—that is to say, it should not be more than the present worth of an annuity equal to the net income for three years. In spite of the apparently excessive valuations indicated in some cases it should be borne in mind that the "old rule" is sub-

[1] Year's purchase of the net income discounted at 6 per cent comprised by the item "Good-Will."

ject to adjustments to meet present-day conditions. The value which attaches to brands, labels and trade names, as a result of extensive publicity will, for example, materially increase the true valuation of intangible property. For this reason it is impossible to prescribe any set formula to be employed in all instances. It need hardly be said, however, that assets of such uncertain value must be given the closest scrutiny of the investor in order that he may distinguish between fictitious and real valuations, between actuality and a promoter's optimism.

5. *Lumping of assets.*—The worst arrangement of assets is when physical and intangible items are thrown together in one sum as "property account" or "real estate, plant, etc." Such a grouping usually is made to prevent the discovery of the water in the stock, and to prevent a calculation of the proper amount of depreciation on the physical plant. The endeavor to make intangible property appear as tangible, or the desire to keep its value secret, is sufficient evidence from those who ought to know best that the intangible assets are not a solid foundation upon which to rest capitalization.

6. *Securities.*—The asset, "securities owned," forms an important feature in three types of consolidated balance sheets; namely, those of railway companies which have built up systems out of smaller lines, those of public utility holding companies, and those of industrial holding companies. These companies control their subsidiaries thru the ownership of their stock.

This same entry forms an interesting item when it appears in primary balance sheets. This occurs: (1) in the balance sheets of companies which have such ample assets that they are able to make pure investments; and (2) in fraudulent enterprises which make a showing by entering worthless securities, the identity of which is carefully hidden.

An example of the company powerful enough to make pure investments may be found in the 1914 record of assets of the Ford Motor Company of Detroit.

ASSETS

Real estate, plant, equipment, etc.	$19,836,152
Inventories (at cost)	9,284,449
Cash	27,441,469
Accounts receivable	3,233,583
Michigan municipal bonds (at cost)	1,330,547
Other investments	9,200
Patents	59,767
Prepaid expenses	437,090
Total	$61,632,257

As an example of the fraudulent balance sheet, the assets of the United Wireless Company, as of January 1, 1909, are offered. The company is defunct, but it still lives in the recollection of its 15,000 stockholders.

ASSETS

Patents and patent rights	$ 5,005,100
United Wireless Company stock in treasury (at par)	5,310,410
Stocks and bonds: other companies—book value	14,128,610
Cash in treasury and treasury agents	109,401
Office furniture and fixtures	3,975
Factory material on hand	9,286
Factories and equipments	25,997
Bills and accounts receivable	176,498
Land stations and real estate	215,442
Boat stations	287,500
Total	$25,272,219

Of these securities, Mr. C. M. Keys wrote, in the *World's Work* for March, 1911, as follows:

> Three years ago last October, this office was visited again and yet again by a gentleman who came to complain that in letters to many people this magazine had "lambasted" the United Wireless, and pronounced it a fraud.
>
> At last, in curiosity, the editor went down to the company's office. He asked for a balance sheet. One was produced. Turning it over, he asked casually what was meant by the item of $14,000,000 "other securities," listed in the statement.
>
> "Those," said President Wilson, "are the stocks and bonds of other companies."
>
> "Have you got them?" he was asked.
>
> "We have," he said. He called the secretary and instructed him to show the stocks and bonds. I went with him into another room of the office suite. There, piled up on wooden shelves, in a room that had on it an ordinary spring lock, in the heart of a fire-trap office building, lay all that wealth!
>
> "Wonderful!" said I. And thereupon and immediately the United Wireless, thru its official secretary, received the one and only cash offer ever made for its $14,000,000 assets. It was an offer of twenty-five cents—if the company would deliver the securities.

The securities of other companies, if they are held for the purpose of controlling subsidiaries, should not be considered as current assets, for the marketing of them at a time when the parent company is in difficulty is likely to be almost as difficult as the sale of fixed assets. It involves, too, an equal disturbance of business plans, by breaking up the intercorporate relations which have been perfected. The presence of the item, "securities owned," is an invitation to the

investor to pursue his inquiries into the balance sheets of the issuing corporations. It is, in effect, a cross-reference to other balance sheets.

7. *Working and trading assets—inventories.*—Inventories comprise raw materials, supplies and finished goods. High inventories are carried where the merchandise handled is of high intrinsic value, as in the slaughtering and meat-packing industry. Witness the assets of Morris and Company, of Chicago, as of October 31, 1914.

ASSETS

Packing house real estate	$ 650,489
Buildings, machinery, and fixtures	12,234,736
Branch markets, real estate, and buildings	2,880,656
Car equipment	2,354,568
Cash	3,476,217
Inventories	19,297,166
Stocks and bonds	7,336,918
Accounts and bills receivable	10,217,750
Total	$58,448,500

Inventories are large also where the purchase of raw material is seasonal, as in the linseed-oil industry, or where the manufacturing process requires a long period, as in whiskey-distilling. An analysis made in 1911 showed that in ten Southern textile mills the inventories were 26 per cent of the total assets, in ten New England textile mills the proportion was 32 per cent, among seventy-three jobbers the proportion was 40 per cent, and in fifty-three retail department stores, 46 per cent.

A large inventory lays a corporation open to the danger of running into a period of depression with un-

salable goods. Such an inventory should always raise the question, "Has there been a change of design or of consumer's taste, so that the inventory may consist of obsolete merchandise?"

8. *Current assets.*—Current assets are properties which are shifting and changeable in their form. They are frequently liquidated and frequently reinvested in the course of business. They purchase materials and finance the labor, administrative and distributive processes by which the fixed assets of a business are exploited. A prime characteristic of current assets is that they can be converted quickly into cash without heavy loss. They are, therefore, suited to form a safeguard, or elastic member, between the fixed assets and all impending and imperative claims.

They comprise cash, notes and accounts receivable, balances receivable from agents, and inventories of raw materials, supplies, and finished goods.

9. *Working capital.*—Working capital is the excess of current assets over current liabilities. Its purity and value depend upon the composition of the items from which it emerges. The amount of working capital which should be provided depends upon the characteristics of the business. The International Agricultural Company of New Jersey, on December 31, 1914, had current assets of $86,137,404 and current liabilities of $28,688,053, leaving a working capital of $57,449,351 with total assets of $129,260,182. So large a provision was required because of the necessity for manufacturing in advance,

and of storing products to supply a short selling season, and also because of long credits.

Some corporations having large working capital are the United States Steel Corporation, the Standard Oil Company of New York and the General Electric Company. Railroads which do a cash business, and which receive money about as it is paid out, require smaller amounts of working capital. On the other hand, industrial corporations which must take advantage of seasonal markets for materials or for finished products, and which must operate over periods when bank-borrowing or the sale of securities to the investor are practically impossible, have need of large supplies. The more an undertaking partakes of the nature of a mercantile business, the greater will be the need for working capital.

10. *Deferred assets.*—Deferred assets include prepaid insurance and taxes, prepaid royalties and discount in the sale of corporate securities. To the discussion of this subject an entire chapter is devoted in the Text on "Financial and Business Statements."

REVIEW

What facts has the investor a right to know?

Does the balance sheet reveal true financial status? Where are most falsifications of balance sheets likely to occur?

Of what items is going value composed?

What is the significance of lumped assets in a balance sheet?

What three classes of security holdings may be distinguished in balance sheets? What conditions justify large inventories?

What items compose current assets?

What is working capital, and when is a large amount desirable?

CHAPTER X

CORPORATION REPORTS: LIABILITIES—INCOME ACCOUNTS

1. *Capital liabilities.*—Liabilities may be classed as capital, current and deferred, in analogy with the diversion of assets. Capitalization may be divided into preferred stock, common stock and funded debt (bonds, debentures, etc.). The difference between tangible assets and capital obligations will generally give a clue to the discount at which the company's securities were originally issued. Thru a series of years, the growth in capitalization should not much exceed the growth in gross earnings. If it does so it is a sign that recent capital is being unproductively applied. An observance of this danger signal would have aroused the investors in the New York, New Haven and Hartford Railway between 1907 and 1911.

2. *Current liabilities.*—Under current liabilities should be included those liabilities which, in the natural course of business, will be liquidated from income within a brief period. Such are notes payable, short-term notes, demand notes or commercial paper, and other evidences of temporary borrowing. To these should be added accounts payable, which arise chiefly

from the purchase of materials and supplies. There is a great distinction between different kinds of current liabilities, whether they are incurred in the normal course of business and so are a sign of business activity, or whether they are incurred in the course of securing funds from banks to make good a deficiency in working capital.

To make capitalization appear small, some corporations carry note issues under current liabilities when they are renewed from time to time. If a floating debt continues indefinitely to float it is no longer merely a current obligation, but is permanent and exists as a perpetual threat of insolvency because of the peremptory nature of its claim. This threat is continued until the indebtedness either is paid and extinguished or is funded and so transferred to capital liability, where it belongs.

3. *Deferred liabilities.*—Deferred liabilities, or deferred credits to income, consist of items of income such as rent, interest and royalties which have been received during the current fiscal period but which have not as yet been earned. As previously mentioned,[1] these items are classified as liabilities since they represent a liability of the organization to deliver certain services at a later period.

4. *Reserves.*—The word "reserve" is sometimes erroneously used to designate certain portions of assets set aside to meet future capital requirements. These may be in the nature of sinking funds provided

[1] "Financial and Business Statements," Chapter XIII.

to liquidate some liability maturing in the future, such as bonded indebtedness. In its true sense, however, a reserve is merely a bookkeeping entry which allows for the ravages of depreciation, or the losses incident to debt-collection, or the decrease of wasting assets by scaling down some overstated asset. Such reserves deal with normal incidents in the production of earnings.

5. *Contingent liabilities.*—The contingent liabilities, often simply described as "other," imply that a company has guaranteed the securities of other corporations, as the Denver and Rio Grande Railway guaranteed the interest on the first mortgage 5s of the Western Pacific, or that it has indorsed the notes of debtors and pledged them as security for loans, a practice not usual in good business.

6. *Surplus.*—A true surplus earned in operation may or may not be in cash; usually it will be found to be distributed among the several classes of corporate assets. If recently earned, it is likely to be in some form of current asset; if of older standing, it may be a fraction of any sort of property. Generally a true surplus recently acquired will cause a corresponding gain in working capital. Such a surplus serves to protect the dividend rate from the immediate effect of fluctuations of trade. "It permits," as Mr. Thomas F. Woodlock once said, "a certain class of expenditures which, while not properly maintenance, cannot safely be capitalized by reason of their not being immediately productive."

At its worst, the entry "surplus" may be merely a pseudo-surplus, or balance sheet evener, finding existence merely as a claim of proprietorship in the stockholders of an inflated value set down in the assets.

It is sometimes said that dividends are paid out of surplus. They are paid out of cash on hand, or in bank, or from bank funds obtained by pledging property. They are charged to surplus, which is quite another matter. Whether there is a true surplus that will warrant dividends depends not upon the item "surplus" itself, but upon the accuracy of the entire balance sheet which permits such an item to emerge on the liabilities side.

7. *Income account.*—The second division of a corporation report consists of the income account. It would be of great value to investors if such accounts began with revenues from operations, and deducted operating expenses and depreciation separately to arrive at net income from operations or earnings, adding "other income" after this to make up total net income. This, in turn, should be diminished by fixed charges, separately itemizing interest, tax payments to arrive at the surplus available for dividends. Surplus should, then, be diminished by the separate subtraction of dividends and special appropriations, leaving unappropriated surplus.

Such an arrangement of items is far from being the rule. The income accounts of American corporation reports show great variety in their degree

of completeness and incompleteness, in the order in which the items are subtracted, and in the titles applied to the various intermediate remainders. Some statements begin with gross sales or revenue from operations, while others start with profits, leaving the readers to imagine how they were determined. Some leave depreciation, and even general expense, to be taken out of net income, while others more sensibly take these items out of gross revenues from operations. Some deduct operating expenses as a single item, while others are not ashamed to show separately what they have allowed for depreciation and maintenance.

It is desirable that income from operations should be distinguished from income derived from other sources, such as investments, in order that the efficiency of the management of the operative departments may be judged. When income from operations and operative expenses are given, it is possible to calculate the operative ratio, or the percentage of income absorbed by expenses. This figure is commonly used in the analysis of railway reports. It may sometimes be made useful in the study of industrial reports.

8. *Depreciation.*—Depreciation is a most important part of operating expenses, and a part upon which the investor needs to keep the closest watch. It is composed, first, of decrepitude, or the slow wearing down of physical properties, due to usage and the ravages of the elements; second, of obsoles-

cence, or reduced usefulness due to change of style or improvement in productive processes; and third, of inadequacy, or diminished value due to the increased scale of operations and the inability of a given unit of equipment longer to coordinate effectively with other units.

The average depreciation of brick buildings has been estimated at 1½ per cent annually, of frame buildings at 2 per cent, of furniture and fixtures at 5 per cent, of tools and machinery at 6 per cent (but at 10 per cent per annum for the first two years), and of stock at 20 per cent. The ability of the investor to apply these elementary rates depends, of course, upon the analysis of physical property furnished in the corporation report. Mr. John Moody has estimated the collective rates of depreciation of the physical property of gas companies at 3 per cent, of railroads at 5 per cent, of cotton mills at 5.5 per cent, of street railways at 5.6 per cent, of manufacturing companies in general at 6 per cent, of steel companies at 7 per cent, of coal companies at 7.5 per cent, of equipment companies at 8 per cent, and of copper companies at 9 per cent.

Lack of definite information is next door to a confession of defective practice. Many American industrial corporations make no allowance for depreciation, thinking to offset it with the appreciation of such assets as real estate and good-will. In the meantime they use all their funds to extend operations to the extreme limit in the hope of achieving a more im-

portant economy from operation on a large scale. There are three objections to this policy. One is that appreciation of real estate does not give a current asset available to pay for new buildings and equipment. Then, while appreciation is uncertain and temporary, depreciation is as inevitable as death and taxes. And, finally, an over-extended condition lays the stockholders' equity liable to sudden extinction by an adverse swing of the constantly fluctuating American market.

A second common practice is the attempt to cover depreciation entirely by current expenditures for repairs and replacements. A concern which is so large that the replacement of the largest machine or building is a mere incident of operation may hold its physical plant at par by liberal expenditures for replacement and improvements. But a small concern, for which the replacement of a large unit of capital goods, such as a hydraulic press or an elevator or a building, would be an overload if charged off in a single year, may well supplement a depreciation reserve with a special capital fund built up thru contributions made from time to time.

To neutralize decrepitude completely and to care for calculable obsolescence and inadequacy out of revenues before calculating net income, is common honesty. To make liberal appropriations out of profits for betterments, to anticipate possible obsolescence and inadequacy due to those sudden and un-

foreseen changes of production, which in this day of scientific progress so suddenly scrap equipment and antiquate processes, is superior prudence.

A lavish appropriation for betterments and extensions, when it is handled as a simple offset to depreciation, is the process of building up a secret reserve. This is a process which is sometimes compulsory under the terms of exacting mortgages and trust deeds, but which is occasionally voluntary to keep rates from being lowered by rate-regulating bodies, to get the better of holders of income bonds, or to reduce the price of shares with a view to shaking out weak holders.

As an illustration of sound practice, it may be mentioned that the General Electric Company charges off annually 10 per cent of the actual value of the physical plant, the International Harvester Company 10 per cent, and the United States Steel Corporation 7 per cent.

9. *Total net income.*—When total net income has been discovered by adding together the net income from operations and "other income," the stockholder may well pause to compare this figure (or an average of it for five years past) with the capitalization. How does the actual capitalization compare with the capitalized net income? The answer depends upon the rate of capitalization used. This can be determined only by averaging the yield of securities of the type involved as issued by similar industries. Mr. John

Moody has stated that industrial shares usually sell for from two and one-half to eleven times their portion of the annual net earnings.

10. *Fixed charges.*—Fixed charges include interest, taxes and reserve-fund requirements. It is important to note that they should be kept well below the lowest point to which net income is likely to shrink in years of depression. In this connection it should be observed, also, that the larger the percentage of revenue absorbed by operating expenses, the more seriously will a given shrinkage in revenues affect net income, for the reason that expenses of operation do not decrease in the same ratio with decrease of revenues. For example, the Mohawk Gas Company, serving Schenectady, New York, suffered a decline of gross earnings in 1908 and 1909. Operating expenses could not be reduced correspondingly, so net earnings suffered a greater relative decline than did gross earnings. The situation can be seen clearly by reducing each column of figures to percentages, the respective figures of 1906 being taken as 100 per cent in each instance. In this case the gross earnings fell off 11.01 per cent, and since operating expenses could be reduced only 9 per cent, the net earnings fell off 14.63 per cent.

Year	Gross Earnings	Operating Expenses	Net Earnings	Gross Earnings Per cent	Operating Expenses Per cent	Net Earnings Per cent
1906	....$200,207	$107,875	$ 92,332	100.	100.	100.
1907	 207,537	115,910	91,627	103.76	107.32	99.27
1908	 177,978	99,181	78,797	88.99	91.00	85.37
1909	 190,939	106,372	84,567	95.47	98.49	91.62
1910	 231,209	121,445	109,764	115.00	112.45	118.92

11. *Sinking funds.*—Sinking funds are rare in railway finance, familiar in connection with industrial bonds, common in the public utility field, and usual in coal mining and lumbering and in municipal finance. Their purpose is, for one thing, to employ a simple and easily enforceable provision for improving the ratio between debt and security, instead of provisions for the maintenance of property, which are more difficult to enforce and require a supervision that is regarded by the management as meddling. Creditors who make a long time loan naturally seek to guard against the possible development of unfavorable business conditions. A small provision will work wonders against a distant danger. One-fourth of 1 per cent on a 5 per cent fifty-year bond callable at par will retire 52 per cent at maturity, while one-half of 1 per cent will retire all.

In prosperous and growing business there is an objection that sinking funds lock up funds in pure investment at low yields which might secure the debtors' claims better if spent to enlarge the earning power of the business. In such cases the object desired may be attained by stipulating for an improvement fund. It is rare outside of businesses with wasting assets that a sinking fund is intended to bring about complete amortization of indebtedness. As a rule, sinking funds are administered without set requirements.

Requirements may, for instance, provide for the setting aside of a given sum each year, or so much per ton of coal mined or per 1,000 board feet of timber

cut. There may be provisions, too, for the application of a given percentage of gross or net income, or of the surplus of net income after interest and an agreed rate of dividends has been subtracted. A given percentage of outstanding debt, or a given percentage of the original issue of bonds, may be retired.

Inquiry into the details of a sinking fund suggests the questions: Is the fund in the hands of the borrowing corporation or of a trustee? If in the hands of the corporation, in what form is it? Is it invested in the business and so, perhaps, to be made available only with difficulty? If it is to be expended in the cancellation of bonds, are the bonds callable at a fixed price? If so, has the insertion of this condition raised the rate of bond interest required by investors? If the fund is to be maintained separate until maturity, what reason is there to assume that the interest rate upon which the scale of payments to the fund must have been calculated, will hold for the life of the bonds?

12. *Unappropriated surplus.*—Net income, less fixed charges, gives surplus. Surplus minus dividends and reserves appropriated for specific purposes, such as for betterments, new construction, pensions, etc. (but not reserves to maintain assets at par) gives unappropriated surplus.

13. *Series of margins of safety.*—It will be noticed that the income account is arranged as a series of deductions and diminishing remainders. Each remainder is a margin of safety indicating the excess

by which the previous balance exceeded the deduction made from it, and hence insuring the fund for that particular deduction against an equal shrinkage. Net income is the margin of safety that operating expenses will be met. Surplus is a margin of safety that fixed charges will be met. Unappropriated surplus is a margin of safety that dividends will be paid.

14. *Columnar arrangement.*—In detecting the significance of progressive changes in the business of a corporation it is useful to arrange the items of the balance sheet and income account in columnar form by years. This may be illustrated by a rearrangement of the income account of the Bethlehem Steel Corporation, as follows:

Year	Net Mfg. Profits	Other Income	Total Income	Interest
1909	$2,654,457	$182,136	$2,836,593	$1,535,781
1910	4,396,439	127,702	4,524,141	1,672,250
1911	4,605,410	187,303	4,792,713	1,865,586
1912	4,846,814	267,626	5,114,440	2,003,915
1913	8,530,708	221,963	8,752,671	2,101,183
1914	9,378,385	271,282	9,649,667	2,212,374

Year	Depreciation and renewals	Extin. of Min. Invest., etc.	Dividends	Surplus for Year
1909	$ 500,000	....	....	$ 800,812
1910	670,000	$180,279	....	2,001,612
1911	675,000	213,148	....	2,038,979
1912	790,578	256,306	....	2,063,641
1913	1,272,269	256,516	$745,400	4,377,303
1914	1,500,000	347,273	745,400	4,844,620

15. *Appraisals and audits.*—It adds authority to financial statements if the physical properties are subject to appraisal by independent experts from time to time, and if the books are subject to periodical audit

by a firm of certified public accountants. Appraisals not only are valuable to check book accounts, supplement audits, and prove the accuracy of assumed rates of depreciation, but form a basis for insurance adjustments and for credit rating. When audits are made by committees of directors they are likely to be perfunctory; when they are made by permanently employed auditors they are likely to be trimmed to suit the controlling interests.

The latter therefore have it in their power to suppress the parts of the auditor's report which they do not wish to make public. After the auditor has given his certificate with reservations and made his comment and suggestion a part of his report, the company very often states that the books have been audited, but does not print the official certificate which has been prepared by the auditor.

The hall-mark of financial independence in this country is the signature of a certified public accountant. As has been stated in the Text on "Financial and Business Statements," the form of this certificate deserves and should have the most careful attention. Thru the fact that auditors there enjoy a greater independence, Great Britain is in some respects ahead of us in auditing practice.

Railway reports are now excellent, thanks to the requirements of the Interstate Commerce Commission; for public utilities they are improving, especially in states with efficient Commission control. For other corporations the situation still has to be endured.

REVIEW

Which current liabilities are a sign of health, and which of illness in a corporation?

What are dividends paid out of, immediately? Ultimately?

Criticize the following showing of assets and liabilities on the score of sufficiency, or explicitness of information.

ASSETS		LIABILITIES	
Freehold and leasehold properties, patents and good-will, including additions, less depreciation	$325,000	Common stock	$210,000
		Preferred stock	120,000
Machinery and plant, including additions, less depreciation	66,000	Debentures	140,000
		Sundry creditors	130,000
Stock in trade (at cost)	234,000		
Sundry debtors	40,000	Reserve fund	110,000
Preliminary expenses	15,000		
Investments (at cost) cash in hand and at bank	70,000	Profit	40,000
	$750,000		$750,000

The company of which the above balance sheet was presented at a stockholders' meeting, yielded a few weeks later the following balance sheet, when its affairs were investigated by an independent firm of auditors, at the suggestion of the stockholders; it was announced that the company would have to pass its annual dividend. Compare this showing with the one above, and criticize it on the score of explicitness.

ASSETS		LIABILITIES	
Freehold property, including additions, less depreciation	$ 70,000	Common stock	$210,000
Leaseholds, as last accounts	75,000	Preferred stock	120,000
Good-Will	140,000	Debentures	140,000
Machinery and plant	66,000	Bank loan	70,000
Preliminary expenses	15,000	Trade creditors	60,000
Patents	40,000	Reserve fund	110,000
Stock in trade (at cost)	234,000	Profit for the year, $35,000; brought forward, $5,000	40,000
Sundry debtors	40,000		
Investments (at cost)	65,000		
Cash in hand and bank	5,000		
	$750,000		$750,000

Of what is depreciation composed, and how is it dealt with by various corporations?

What is the relative effect of a decrease of gross earnings upon net earnings in two cases, one where operating expenses are a large percentage of gross earnings, the other where they are a small percentage?

Discuss sinking funds.

CHAPTER XI

RAILWAY SECURITIES

1. *Characteristics of railways.*—Some of the special features which characterized the railway business from an investment point of view, and which distinguished it from other businesses, were the unique character of the physical equipment necessary, and the commercial geography and interline traffic relations that determine the rise, volume, and permanence of the different types of traffic. Other characteristic features were evenness of income and of consequent high bonding limit; the public control of rates, of car service, and of labor conditions by the states and the Federal Government; the increasing cost of supplies and labor; the profitable real estate investments in terminal properties; the instalment plan used in paying for equipment, and the perpetual life of the business. When the government assumed control of the railroads it definitely fixed the income which is to attach to each species of security and guaranteed it. During the continuance of this guarantee prices will be determined by general interest rates, not by specific risks.

Some special tests of operating efficiency which grow out of these conditions and the technic of the business are:

Ton miles per mile of road
Average train load
Average length of freight haul

$$\text{Density of traffic} = \frac{\text{Ton miles}}{\text{Miles of line.}}$$

Revenue freight train load
Maintenance per 1,000-ton miles
Operating expense per 1,000-ton miles
Revenue per 1,000-ton miles

$$\text{Operating ratio} = \frac{\text{Operating expense}}{\text{Gross earnings}}$$

Gross earnings per \$1,000 capitalization
Gross earnings per share of stock

$$\text{Ratio of stock price to gross earnings} = \frac{\text{Gross earnings}}{\text{Stock price}}$$

Division of gross income
- Percentage of maintenance
- Percentage for traffic, transportation, and general expense
- Percentage for fixed charges
- Percentage for surplus

The uniform and public nature of railway accounts resulted in making railway securities sell upon their established reputation more than any other class of securities. Even the bond houses trusted more to the reputation of the borrower and made commitments with less thoro individual investigation in the case of railways than would be required in the case of public utilities and industrials. This was not due alone to the fact above mentioned, but to the fact that an original investigation was exceedingly expensive. If the investor desires to develop his independent judgment

further thru the study of reports as a supplement to the advice he receives from his bond house, the suggestion is made that he begin with Mr. John Moody's excellent book "How to Analyze Railroad Reports."

2. *Integration of properties.*—Railway securities derived many of their characteristics from the consolidation of independent lines into systems. The movement which proceeded so rapidly in the early nineties was carried to the point where barely twenty per cent of the lines once distinct now remain as independent concerns, and the bulk of listed railway bonds are obligations of parts of twenty great systems. As a result of this assemblage of properties we have an extraordinary diversity of types of bonds. Lien has been superimposed upon lien. The original local issues have been overlaid, first, by broader mortgages representing the intermediate steps of consolidation, and these in turn have become subordinate to comprehensive obligations which are spread like a blanket over an entire system. These conditions have produced many differences of degree among mortgage issues "from those next to the rails to those next to the stock." For example, the Erie Railroad Company's prior lien bond is actually the seventh mortgage on the line, the other mortgages being issued by the companies which operated before the organization of the Erie Company.

With liens of such complexity, it is no longer possible to compare the earnings of the mortgaged prop-

erty with the fixed charges, for the earnings of the particular mileage involved are not likely to be given separately in the reports of the system. The investigator was driven to make roundabout calculations from the earnings of similar properties, from the earnings of the separate property before it was absorbed, or from valuations of particular parts made by state boards of control. He could also calculate the total outstanding indebtedness per mile of the line, and compare this with the probable value of the property. The position of any particular security was then determined by subtracting the total sum of prior liens.

This smothering of essential details is one of the drawbacks of suspending the reports of constituent companies and summing up their accounts in consolidated balance sheets and income accounts. The possibility of secrecy may be illustrated by the case of the borrowing done by the Oregon Short Line. After the merging of that line in the Union Pacific Company it ceased to issue annual reports, its accounts being lost in the great totals of the parent company. The stockholders were unaware that their company owed the Union Pacific Company nearly $72,000,000, until, after the lapse of a number of years, the management announced a stockholders' meeting to vote an increase of capital stock from $27,460,000 to $100,000,000, to pay off the indebtedness.

A laudable effort is being made by railway financiers to clear away the tangle of intercorporate re-

lationships and dispose of the original undergrowth of small mortgages so that in their place there may be issued comprehensive open-end mortgages which, in time, will become first mortgages upon entire systems as the smaller issues mature or are exchanged. Taken as a class, railway bonds have had the highest investment standing. However, the intricacies of railway finance exceed those of any other type of American finance. This counseled the investor to observe the general reputation of the management of the issuing and controlling companies, to consult bond houses run by capable and conservative men, and to regard scrupulously the maxim that high yield implies danger.

The quotations of some railway bonds on August 21, 1916, as furnished by Redmond and Company, of New York City, were as follows:

Issue	Rate	Maturity	Price	Yield
Baltimore & Ohio R. R.				
Prior Lien Mortgage..............	3½	1925	92⅞	4.50
West Virginia & Pittsburgh				
First Mortgage	4	1990	86	4.70
Atlantic Coast Line R. R.				
General Unified Mortgage	4½	1964	90	5.05
Charleston & Savannah General First Mortgage	7	1936	135	4.35
Erie R. R.				
Consolidated Mortgage	7	1920	109	4.50
Cleveland, Akron & Cincinnati Ry.				
Cincinnati & Muskingum Valley First Mortgage	4	1948	94	4.35
Philadelphia & Reading Ry.				
Philadelphia, Harrisburg & Pittsburgh First Mortgage...........	5	1925	105¼	4.30
Atchison, Topeka & Santa Fe Ry.				
Adjustment Mortgage	4	1995	83⅞	4.80
Houston East & West Texas Ry.				
First Mortgage	5	1933	102	4.80
Southern Ry.				
St. Louis Division, First Mortgage..	4	1951	80¾	5.20

3. *Collateral trust bonds.*—A result of the process of consolidation was the collateral trust bond. When the control of small properties has been secured thru the control of stock, the stocks are often deposited as security, and bonds are issued against them. In this way the public is induced to finance the operation. In this endeavor to make bonds out of stocks the saving grace is the margin of the market value of the stocks pledged over and above the par value of the bonds issued. If such a margin is a changing factor, influenced by the fluctuations of the market, the security possesses the offsetting merit of ready marketability.

4. *Guaranteed stocks.*—The same process of consolidation has led to the guaranteeing of the stocks and bonds of subsidiary companies. Out of a total of some 142 issues of guaranteed stocks now on the market, 122 are the result of railway consolidations. The Western Union Telegraph Company and the New York Railways Company furnish conspicuous illustrations of this form of security. The value of a guaranteed stock depended both upon the original equity and upon the strength of the guarantor. Most of the issues are low-yield pure investments, and very closely held, and are bid up against the ordinary investor by trustees and corporate investors.

5. *Effects of rate control and rising costs.*—The investor in railway securities had to consider the consequences of placing railway managements between

an upper millstone of state and Federal commissions and a nether millstone of labor unions and rising commodity prices. The former factor held rates static or lowered them from time to time, and the latter elements were rapidly forcing upward the costs of operation. Between the two the margin of safety, composed of the surplus of net earnings over and above fixed charges, grew thinner and thinner.

The public remembers the scandals of the Erie, the juggling of the Cincinnati, Hamilton and Dayton, the pyramiding of the Rock Island Company and of the St. Louis and San Francisco Railroad, the ballooning of Chicago and Alton issues, the foolish tragedy of the Wabash Pittsburgh Terminal, the crushing of the Denver and Rio Grande and the bloodsuckers attached to the Missouri, Kansas and Texas. Out of these and dozens of other memories a feeling of distrust and hostility toward the railroads was instilled gradually into many minds. This attitude expressed itself finally in vigorous Commission control for the purpose of regulating rates, abolishing secret discriminations, making railway accounts public, and regulating car and train service. This generation of railway managers inherits an alienated public mind.

And now, within the past fifteen years, a new enemy for the railway to deal with arose in the form of a steady upward climb of commodity prices, from the low point of the middle nineties to levels which

rival, and even exceed, the prices of the Civil War period. A railroad must use ties, rails, lumber, buildings, supplies, cars, locomotives, coal, oil, grease, tools, machines and almost every known variety of common labor and skilled service. All of these goods and services, with few exceptions, cost more than formerly. The following tabulations will illustrate changes in prices and wages:

Commodity	1900	Dec. 1915
Common brick, N. Y. C. per M.	$ 5.25	$ 7.38
Portland cement, bbl.	2.16	1.75
Window glass single per 50 sq. feet	2.70	2.98
Hemlock lumber per M. ft.	16.50	21.25
White oak per M. ft.	40.83	59.00
White lead in oil per 100 lbs.	6.25	7.25
Bessemer steel rails per ton	28.80	25.50
Wire fencing per 100 lbs.	3.39	3.04

AVERAGE DAILY WAGES OF RAILWAY EMPLOYES

Class	1900	1914
Station agents	$1.75	$2.33
Enginemen	3.75	5.24
Firemen	2.14	3.22
Conductors	3.17	4.47
Machinists	2.30	3.27
Carpenters	2.04	2.66
Section foremen	1.68	2.20
Trackmen	1.22	1.59
Telegraph operators	1.96	2.56

The wages paid out by American railways amounted in 1900 to 38.8 per cent of gross earnings; in 1914 it reached 45.3 per cent.

The effect upon the income account of this increase in expenses has been generalized as follows on the basis of the statement of 19 standard railroads, the gross earning capacity being reduced to a unit of $100,000:

Item	Years 1900–1909 inc.	Fiscal year 1913
Gross earnings	$100,000	$100,000
Operating expenses and taxes	67,400	74,300
Net earnings	$ 32,600	$ 25,700
Other income	4,200	6,600
Net income	$ 36,800	$ 32,300
Interest paid (including rentals)	16,300	14,200
	$ 20,500	$ 18,100
Dividends paid	10,900	12,000
Surplus	$ 9,600	$ 6,100

As a result of these changes railway stocks, as a class, became difficult to distribute to the investing public. Many stocks dropped to below par so that new issues were impossible, since the issue of shares at less than par is illegal in most jurisdictions. Financing accordingly turned to bonds. But many mortgage issues were found to be exhausted, while junior issues were unpopular. Furthermore, the steady decline in railway bonds prevented new issues except at higher interest rates than those of the bonds outstanding. In this dilemma, while the investing public was turning more and more toward municipal and public utility bonds, the railroads turned to the banks for funds, and financed themselves temporarily with short-term notes at high rates. They bought equipment thru equipment trusts. Some of them cut down expenditures for maintenance and capitalized small improvements. They appealed to the investor with convertible bonds and with collateral trust

bonds secured by their own stocks which had failed of a direct market. A few of them have even issued long-term bonds and capital stock to pay for equipment or to retire the principal of equipment trusts. All this involved the increase of fixed charges.

This temporary financing, which was done in the hope of coming eventually into a more favorable market, built up a mass of short-term obligations which required frequent refunding. The total note issue of the last ten years was as follows:

Year	Railroad notes	Other notes	Total notes
1906	$118,000,000	$ 20,463,000	$138,463,000
1907	269,160,000	60,702,700	329,862,700
1908	175,000,000	16,341,000	191,341,000
1909	195,980,000	31,478,000	227,458,000
1910	212,951,000	61,753,000	274,704,000
1911	326,948,000	67,590,000	394,538,000
1912	377,793,300	130,991,000	508,784,300
1913	427,229,700	164,892,000	592,121,700
1914	421,999,000	104,346,500	526,345,500
1915	216,215,200	119,918,500	336,133,700

Various remedies were proposed for this condition. The railroads demanded rate increases. The investment bankers suggested refunding with comprehensive first-mortgage issues, the use of sinking fund provisions in connection with future bond issues, and enlarged powers for trustees in keeping track of such security as rolling stock. The shippers urged greater efficiency in operation.

6. *Equipment trusts.*—A rapid increase in the use of the equipment trust plan of buying cars and engines by American railroads has been seen during the past twenty-five years. There are three parties to the con-

tract—the railroad company, the equipment manufacturer and the trustee, the last named being usually a bank or trust company. According to one arrangement the railroad company pays the trustee from ten to twenty per cent of the cost of the equipment and the balance is paid in notes divided as to maturity by an even schedule over a period of ten years. It also enters into an agreement to lease the equipment, maintain it in repair and keep it free from all liens. The trust company buys the equipment from the manufacturer and delivers it to the railway according to the terms of lease. It markets the equipment trust bonds, collects rentals, presents bonds to the railway for payment when due, and performs all other duties in its relation between the railroad and the bondholders. The title to the equipment rests in the trustee. It is transferred to the railway when the last bond is paid. With such an arrangement as this in force, if there should be any deficiency in the security of the rolling stock, the railway would still be liable on its notes. To avoid taxation on the equipment trust issues, some plans provide for the issue of certificates by the trustee, or by an association which assigns the lease to the trustee, and the railroad guarantees the certificates.

In all plans the main points have been to secure a cash contribution from the railroad to serve as an initial margin of safety, to have the notes or certificates paid off more rapidly than the rolling stock depreciates so that the margin of safety increases as time

goes on, to form an enforceable contract with the railroad with reference to repairs and the replacement of destroyed units, and to withhold title from the railroad until the equipment is entirely paid for, so that creditors of the railroad or the holders of general mortgage bonds cannot attach the property as security for their claims.

These securities possess the enviable record of having passed thru numerous receiverships without a dollar of loss to any holder and with scarcely a recorded delay in interest payment. The courts have declared this security a preferred obligation and they have even ordered receivers to sell certificates to meet the required payments on interest and principal. The reason for such exceptional treatment is that rolling stock is absolutely essential to a railroad, and if there is a default the trustee possesses the right to remove the property from the possession of the road.

The quantity of equipment bonds outstanding in 1890 was $49,000,000. In 1900 it was $60,000,000. In 1905 it was $200,000,000. And in the latter part of 1915, it was $600,000,000.

A portion of the quotation sheet of railway equipment bonds issued by Bull and Eldredge of New York on November 11, 1916, was as follows:

Amount	Security	Rate	Maturity	Series	Price	Approximate Yield
1 30,000	Balt. & Ohio. Eq......	4½	May 1921	1916	$101.46	4.20
1 16,000	do	4½	May 1922	1916	101.21	4.25
1 10,000	do	4½	May 1923	1916	101.40	4.25
1 50,000	do	4½	1925–1926	1916	.....	4.25
1 10,000	Balt. & Ohio Eq......	4½	1922–1923	1913	.....	4.25
1 2,000	Canadian Pac. Eq.....	4½	1921–1922	T	.....	4.35
1 15,000	do	4½	1925–1927	T	.....	4.40
1 38,000	Chesapeake & Ohio Eq..	4½	1923–1924	O	.....	4.25

Amount	Security	Rate	Maturity	Series	Approximate Price	Approximate Yield
1 10,000	Clev., Cin., Chic., St. Louis Eq.	5	July 1923	1915	103.34	4.40
50,000	do	5	1924–1928	1914	.....	4.50
34,000	Cinn. Indianapolis & Western Eq.	5	1922	loco	101.25	4.75
1,000	Kansas City Southern Eq.	5	June 15, 1924	D	.....	4.50
4,000	Erie R. R. Eq.	5	1922–1923	....	.....	4.35
10,000	Minn. St. P. & Ste. Marie Eq.	4½	Mar. 1920	C	101.29	4.10
10,000	do	4½	Sept. 1920	C	101.46	4.10
100,000	N. Y. Central Lines Eq. (Registered)	4½	Jan. 1921	1912	100.75	4.30
10,000	N. Y. Central Lines Eq.	4½	1926–1928	....	.....	4.40
1 65,000	Southern Pacific Co. Eq.	4½	Mar. 1921	A	101.42	4.15
1 1,000	Southern Railway Eq...	4½	Dec. 1921	....	100.87	4.30
1 1,000	Southern Railway Eq...	5	Apr. 1922	S	102.20	4.35
1,000	Virginia & Southwestern Eq.	5	Dec. 15, 1919	F	101.85	4.38

1 Tax exempt in Pennsylvania.

Equipment bonds are frequently quoted on the basis of yield only. Where a number of maturities are grouped, this method gives the approximate average yield and the price is readily determined from this.

REVIEW

What are the special characteristics of railroads which exert an influence upon their securities?

What are the types of securities created in connection with the process of forming railway systems out of smaller constituent properties?

How are the railway systems attempting to simplify their structure of securities?

What are the effects of rate control and rising commodity and labor costs upon railway finance, especially upon the type of securities now being issued?

Explain the manner in which equipment trust certificates are created.

What are the essential elements of an ideal equipment trust agreement?

CHAPTER XII

PUBLIC UTILITY SECURITIES

1. *Definition.*—Public utility corporations are those which operate under a franchise and furnish public service of any kind. They usually employ the streets for a portion of their permanent equipment. The California law includes under the term "public utilities," companies operating railroads, street railroads; express service, sleeping cars, dining cars and fruit cars; vessels regularly engaged in transportation over regular routes between points within the state; pipe lines, gas plants, electric plants, telephone lines, telegraph lines, water systems; public wharves and warehouses conducted by common carriers. In investment circles, the term "public utility" practically includes only gas, electric light, power, heat, street railway and interurban enterprises. It does not include steam railways nor shipping concerns, and usually does not include the telegraph and telephone business. In 1914, it was estimated that public utility companies employed approximately eight billions of dollars as capital.

2. *Types of securities.*—The securities upon the market include the bonds and stocks of isolated com-

panies, and of subsidiary companies which have come more or less completely under the domination of holding companies, and the securities of holding companies. These holding companies may be divided into several classes. One type consists of pure investment companies which simply hold the securities of subsidiary concerns without exercising control over operations. They are financing devices organized to standardize securities, average investment risks, bring out larger issues, and so reach a larger and more stable investment-market. Examples are the American Power and Light Company and the Electric Bond and Share Company. Another type of holding company is formed to control productive operations. This is done by bringing about joint purchasing, by coupling up plants as in natural gas supply or electric power generation, and by bringing all operations under the control of a staff of expert engineers, accountants and general managers. Such corporations are the subsidiaries of the Public Service Corporation of New Jersey—the Public Service Railway Company, the Public Service Gas Company and the Public Service Electric Company.

The superimposition of company upon company and the complexity of the intercorporate relations which large systems involve, are shown in the following schedule giving component parts of the United Gas and Electric Corporation. In order to save space the word "company" has been omitted in the names of the several corporations.

- United Gas and Electric Corporation
  - Consumers El. Lt. & Power
  - Harrisburg Lt. & P.
  - Houston Gas & Fuel
  - Union Gas & Electric
  - Lancaster County Ry. & Lt.
    - Conestoga Traction
    - Edison Electric.
    - Lancaster Lt. & Fuel
    - Conestoga Realty
    - Columbia Gas
  - International Traction
    - International Railway
  - United Gas & Electric
    - Altoona Gas Light & Fuel
    - Citizens Gas & Fuel
    - Colorado Springs Lt. Ht. & P.
    - Elmira Water, Lt. & R. R.
    - Hartford City Gas
    - Leavenworth Lt. Ht. & P.
    - Lockport Lt. Ht. & P.
    - Richmond Lt. Ht. & P.
    - The Wilkesbarre.
  - American Cities
    - Birmingham Ry. Lt. & P.
    - New Orleans Ry. & Lt.
    - Memphis St. R.
    - Little Rock Ry. & El.
    - Knoxville Ry. & Lt.
    - Houston Ltg. & P.

The formation of an intelligent opinion about the value of securities which are several stories above the ground, and which depend upon shares, based upon shares, is not easy.

Mr. Samuel Insull, President of the Commonwealth Edison Company of Chicago, has said:

> The great danger of the holding company proposition is the issue of junior securities of subsidiary companies, these junior securities being sometimes put into collateral trusts of the holding company for the purpose of creating collateral for so-called prior lien securities of the holding company. If the deed of trust issuing the collateral trust securities is rigid enough to protect the purchasers of these securities against the creation of large floating debt in the

operating company, and if the bond issue of the operating company is small and is a closed issue, there is no reason why the stocks of operating companies should not be put up as security for collateral trust bonds of holding companies.

It may be laid down as a safe rule that the securities of holding companies should not be touched as investments unless the reports contain consolidated balance sheets and income accounts which sum up the conditions of the subsidiaries. For a number of years during the early growth of holding companies it was not customary to buy subsidiaries by a strict process of valuation of assets. Instead of this a "situation" was bought for a lump sum by a general bargaining process. The secondary securities thus created obviously depended more upon the earning situation and the arts of management than upon the property and the science of property appraisal. As long as these securities were stocks no violence was done to market traditions, but when the name bond was used, even if it were "collateral trust bond" there was introduced a chance of misunderstanding.

It must be recognized, however, that the practice of holding companies has, as a rule, been very clean. The increase of the wealth and population of American cities has created such a demand that even structures originally very weak have become prosperous. The standardization of operating processes has proceeded rapidly and that of accounting practices more slowly. Growth has created such a demand for new capital that the mortgage limitations of subsidiaries,

and the dislike of the investor for junior issues, have been felt keenly. A movement to simplify the structure of liens similar to that in railway finance is under way. The purpose of this is to refund local underlying issues with broad open-end mortgages. This will allow new financing, under a lien identical with the old, as rapidly as extensions and improvements are required. There is some movement to dissolve subsidiaries, as illustrated by the Pacific Gas and Electric Company which owns in fee all the properties it operates. In some cases, the creation of large units which take the place of the subordinate ones is made impossible by state laws which require that utilities within the limits of the state shall be owned and operated by domestic corporations.

Of the eight billion dollars invested in public utilities, it is estimated that nearly five and a half billions are controlled by holding companies and their subsidiaries.

The advantages of this form of organization are very analogous to the advantages of railway systems and of consolidated corporations in industry. Among other things, supplies may be purchased at wholesale, equipment may be standardized, the service of specialists in each branch of service may be obtained, and funds are available to rehabilitate a local company after a storm or flood or other disaster. Extensions may be made as public demand requires, regardless of local deficits, and cheaper power may be bought from larger central stations or from distant water powers.

A portion of the problem of peak load may be solved by coupling-up individual power units into a system. The investors' risk is averaged by spreading the effect of local misfortunes upon a larger consolidated balance sheet. Larger issues of securities, securities better known and more actively dealt in, with a consequent lower price of capital borrowed, result from these conditions.

It should be understood that public utility holding companies do not aim at the stifling of competition as do many consolidations in the industrial field. They absorb selected businesses in different localities but fight shy of competitors in the same locality, and even of corporations which have been formed from the consolidation of competitors if the capitalization has been materially swelled by the costs of trade warfare.

3. *Escrow conditions.*—The open-end mortgages involve the authorization of a large bond issue, the drafting of a general mortgage to include not only the property now owned but any to be acquired in the future, the issue of whatever part of the bonds may be required immediately, and the deposit of the remainder of the bonds in escrow with a trustee to be issued only as prescribed conditions are complied with. Such conditions are the building of extensions or improvements or the purchasing of new property. These conditions are certain to appear more and more frequently in future bond issues. The usual ones are, that the face value of the bonds shall not exceed a certain percentage (from 75 to 90) of the cost of the

extensions or additions, and that no bonds shall be issued unless the net earnings of the corporation for a designated past period have been at least a given number of times (from 1½ to 2) the interest on the total funded debt, including the bonds it is proposed to issue.

The Des Moines City Railway Company authorized an issue of $15,000,000 general and refunding mortgage 5 per cent twenty-year gold bonds on January 1, 1916. Of this issue $3,478,000 were executed and issued at once. The $11,150,000 remainder was deposited with the trustee to be certified and delivered only as follows:

(a) One million dollars ($1,000,000) par value of said bonds may be issued to an amount or amounts not exceeding the actual and reasonable expenditures made subsequent to January 1, 1916, for the construction, reconstruction or rehabilitation of or for permanent extensions, enlargements and additions of and to the plants and properties of the Company, as the same existed on January 1, 1916.

(b) Ten million one hundred and fifty thousand dollars ($10,150,000) par value of said bonds may be issued from time to time, not to exceed, in the aggregate, eighty per cent (80%) of the actual and reasonable expenditures made subsequent to January 1, 1916, for permanent extensions, enlargements and additions of and to the plants, properties and equipment of the Company as the same existed on January 1, 1916.

No bonds shall be certified and delivered under the provisions of this Section (4), unless and until the net earnings from the plants and properties owned by the company and subject to the lien of this indenture at the time of its application for such certification, for a period of twelve (12) consecutive months ending not more than sixty (60) days

prior to the date of the filing of such application, shall have been in each case equal to at least one and three-fourths ($1\frac{3}{4}$) times the total annual bond interest charge.

It would lead too far afield into details of mainly local interest to reproduce here the carefully worded conditions under which the bonds above noted were to be issued. In this as in many similar cases the documents are drawn up with the greatest care and a profusion of detail.

For example, the mortgage which was given by the Milwaukee Electric Railway and Light Company to secure their general and refunding mortgages 5 per cent gold bonds, due December 1, 1951, devotes twelve pages to a definition of the conditions under which escrow bonds can be issued by the trustee, including a description of the documents and guarantees which the company must furnish to the trustee with reference to the property involved, and an exact definition of the manner in which the net earnings of the company shall be calculated.

4. *Commercial analysis.*—The commercial analysis of a public utility business is similar to the analysis of municipal bonds already described in the chapter on Public Bonds of Domestic Origin.

A city of large size is safer than a small place. Growth is important, since the earnings of public utilities generally increase faster than the increase of population. A high average of prosperity is a favorable circumstance. The negro population of southern cities should be disregarded to a large extent in

making estimates of probable patronage. It makes a difference which branch of public utility service a company renders. The safest and most profitable services are gas and electric light and power. If a company renders more than one service it is desirable to know the proportion of revenue derived from each source. It is very satisfactory when the report of a company gives information which permits the progress of each service to be traced thru a series of years.

The American Power and Light Company, in its report for 1915, states the sources of gross earnings as follows:

	Amount	Percentage
Electric light and power	$4,311,545	59
Artificial gas	1,928,382	26
Natural gas	692,244	9
Railway	186,229	3
Water	179,209	3
Miscellaneous	28,487	..
	$7,326,096	100

In addition, this company gives data which permits the progress of each line of business to be followed:

CUSTOMERS

Year	Electricity	Artificial Gas	Natural Gas	Water	Total
1909	4,893	450	10,301	....	15,644
1914	69,060	66,322	15,088	7,891	158,361
1915	79,277	65,924	20,404	8,285	173,890

Such information is likewise given for each constituent company, as well as data on the length of the distributive systems and the annual production of gas and current. This, together with separate balance sheets and income accounts and a consolidated bal-

ance sheet and income account, serves to show how a brief report can be made thoroly satisfactory.

5. *Earnings in depression.*—As the population of cities does not decrease in periods of depression, and as the services of public utilities are necessities or quasi-necessities, it follows that the incomes and earnings of these companies are little affected in hard times. A tabulation of net earnings for a few companies is here given showing the bad year 1908 in comparison with the good years 1907 and 1909.

NET EARNINGS

Company	1907	1908	1909
American Light and Traction Co.	$2,426,595	$2,678,664	$ 3,239,179
Pacific Gas and Electric Co.	5,115,911	5,864,586	5,959,712
Milwaukee Light, Heat & Traction Co.	466,689	481,655	535,547
Mobile Electric Co.	127,290	138,580	141,569
Muskogee Gas and Electric Co.	71,118	76,688	97,161
Tri-City Railway and Light Co. (Davenport, Rock Island and Moline)	649,964	749,761	898,580
Total	$8,857,567	$9,989,934	$10,871,748

As would be expected in so stable an industry, the risk of receivership is small. Statistics show that the average amount of securities of gas and electric light companies in the hands of receivers from 1882 to 1911 inclusive was 0.37 of 1 per cent of the total amount outstanding. For national banks it was 0.32 of 1 per cent, while for railways it was 1.67 per cent and for industrials 2.07 per cent. In September, 1916, it was estimated that one-tenth of the mileage of steam railroads in the United States was in receiverships, while there were practically no electric light and power or gas companies in receivers' hands.

REVIEW

What are public utilities in the investment-market sense?

What are the different types of holding companies?

What are the advantages of consolidation in the field of public utilities?

What is to be said of the problem of competition versus monopoly in this field?

How are public utility companies affected by hard times?

CHAPTER XIII

PUBLIC UTILITY SECURITIES *(Continued)*

1. *Analysis of reports.*—Public utility reports, unfortunately, lack the uniformity and the fullness of railroad reports. However, the state commissions and the more soundly managed holding companies are establishing standards which are likely to become more general if it is seen that the investor shifts his patronage to concerns which deal justly with the stockholder in the matter of information.

A good standard income account is thus generalized by Mr. Albert H. Bickmore:

Assuming that reproduction values are $2,000,000, the earnings and the amount of bonds should be about as follows:

Gross earnings	$300,000
Operating expenses	180,000
Net earnings	$120,000
5 per cent interest on $1,500,000 bonds	75,000
Surplus for depreciation and dividends	$ 45,000

From the viewpoint of safety of principal and interest of bonds these figures are sound, altho not an ideal model of bonds and earnings. Properties of a reproduction value of $2,000,000, however, if well developed and well managed, show earnings of $400,000 or more. Such properties can be operated at 60 per cent of gross earnings and thus bonded will eventually earn two or more times the interest charges.

In the table given, the difference between the avails or proceeds of the $1,500,000 bonds and the reproduction

values, together with the franchise, going concern, good will and managerial efficiency values, should be represented by preferred and common stock. The combined market value of these stocks, which should be from 40 per cent to 100 per cent of the par value of the bonds outstanding, depends upon various factors, but particularly upon efficiency of management.

By reviewing the balance sheet and income account figures, and taking into account a general estimate of commercial conditions, the investor can establish a group of normal ratios and compare the ratios of any individual property with them. The bonds should be within the reproduction value of the property—approximately from five-eighths to three-fourths of it. If they are so at issue, the question of keeping this relationship stable then arises. The preservation of property at full value depends upon proper depreciation and maintenance charges. In the case of electric railway properties, these charges may be about 22 per cent of gross earnings, and in electric light properties three-fourths as much, or 16 to 17 per cent. Depreciation and maintenance should either be fully taken out of the annual earnings, or the amount so taken out should be supplemented by an obligatory improvement fund to be set aside out of earnings. If it seems safer not to trust to the management, a sinking fund may be stipulated. This would be paid to the trustee and be drawn upon for improvements or bond redemption; or else as a last resort the amount of the debt may be reduced regularly by a schedule of serial maturities.

In conservative practice, bonds and preferred stock together should not exceed the reproduction values by more than such a discount on these securities as would cover the expenses of flotation.

The proper ratio between gross earnings and bonded debt depends upon the type of utility. A hydro-electric enterprise selling to large consumers may safely carry a bond issue of from six to seven times the gross earnings. A company providing all types of public utility service, with distributive systems, should seldom have bonds over five times the gross earnings. Companies with large operating expenses should keep within a ratio of 4 to 1. The most conservatively managed properties in the country show a ratio of a trifle over 3 to 1.

If the spread between gross earnings and net earnings is large, it is generally a sign of inefficient management, signifying high charges to the public with consequent small patronage. The relation of net earnings to interest charges varies from 2 to 1 to 1½ to 1. Net earnings should be at least one and one-half times the interest; if they are one and three-fourths times the interest, the margin is ample; if they are twice the interest, the allowance is very liberal, the bonds are conservative and their yield on market prices is likely to fall below the average.

There are difficulties in the attempt to calculate the position of a company from the amount of the investment made, or the gross income per capita received from the communities served, or from the

customers served. A wealthy and progressive population in a growing city will warrant larger figures than a group of small, stagnant towns with a large element of negro population. The ratios to customers are disturbed where there are commercial consumers who take large amounts of gas or electric power.

Gross earnings should show steady growth. The general growth of wealth and patronage in the United States is estimated to be four per cent, and the population of cities increases faster than that of the country in general. Consequently, as the earnings of a public utility normally increase faster than the locality increases in population, and as net earnings increase more rapidly than gross earnings we should expect improvement at a faster rate than four per cent. In the period 1908–1914, a group of high-grade public utility properties in this country averaged an increase in gross earnings of 7.7 per cent per annum.

In 1913, Mr. John E. Oldham of Merrill, Oldham and Company, Boston, gave a definition of a "well-selected public utility bond" before the convention of the Investment Bankers' Association of America as follows:

It is a somewhat difficult matter to define, briefly and clearly, what is meant by public utility bonds of accepted standards, or by the more common expression used by nearly all investment houses, "well selected" issues. There are certain features, however, which must characterize all such issues:

After mentioning a well-established community with sufficient market, and a long-term franchise without burdensome restrictions he says:

If I were limited to a rule which were to be expressed in but a single sentence, I would suggest: gross earnings should equal or exceed five times the interest charge. For reasons unnecessary to state, I would except from this rule, corporations whose source of power is from hydro-electric plants. With gross earnings equal to five times the interest charge, and under normal operating conditions, I should expect to find net earnings available for interest dividends and depreciation, equal to about 1¾ times the interest charge, leaving adequate margin above the interest charge to take care of depreciation and to permit the payment of substantial dividends.

I should also expect that the market value of the stock would be approximately 50 per cent above the face value of the bonds and that earnings would be found to be based on fair rates for service which yielded a reasonable return on capital, as that term is usually interpreted.

These expectations would be based on the knowledge that many, if not a majority of successful public utility companies furnishing the kinds of service referred to, located in populous communities all over the United States, required from 60 per cent to 65 per cent of gross receipts for operation, including ordinary maintenance and taxes; that after providing for depreciation there remained 30 per cent which they distributed as interest and dividends; that the market value of the securities of corporations distributing 30 per cent of gross income was usually about six times the gross earnings; that 20 per cent of the gross earnings was equivalent to interest at 5 per cent on an amount of bonds equal to four times the gross earnings. On this basis, $6 of market value for each $1 of gross earnings, $4 would represent the face value of the bonds, and $2 the market

value of the stock; that is to say, a margin of value equal to 50 per cent over the par value of the bonds.

The expectation that rates for service would be found reasonable, would be based on the consideration that 30 per cent of gross earnings is equivalent to 7 per cent on a value equal to but 4.30 times the gross earnings.

2. *Public control.*—Since public utilities employ the streets for their distribution systems and render a service which is a necessity of life, according to modern standards of living, their relations to the state and the municipality are important. These relations are established thru the charter, the franchise, the contracts for furnishing service to the city, and the regulative powers granted by law to public commissions.

In the earliest period, when public utilities were very much desired everywhere, franchises were unlimited. There followed a period when public hostility, the desire for a frequent revision of terms or for ultimate public ownership, dictated franchises limited to a term of twenty to thirty years. The franchise history has now passed into a third stage. It is now understood that the correct policy is regulated monopoly and the guarantee of perpetuity of life and a fair return on invested capital, so long as the rates are fair and the management is efficient. This has led to the indeterminate franchise, introduced by such states as Massachusetts, Wisconsin and Indiana. The life of this franchise depends upon the conduct of the company itself. The investor should inspect the franchise for terms of taxation, the

street paving required, the sprinkling of streets required, the power of the municipality to order extensions into sparsely settled suburbs, the control of rates, the revenues to be paid to the city, the matter of exclusive right to the use of the streets, public purchase clauses, and the means by which the franchise is to be renewed.

Mr. John Moody has pointed out the danger of capitalizing franchise values to represent the excess of earnings above a reasonable return upon the capital invested. He says, in "The Art of Wall Street Investing":

> The various properties owned and controlled by the New Jersey Public Service Corporation are capitalized for over $210,000,000 and yet they could probably be replaced, aside from the franchise values, for less than $80,000,000. The difference, of course, is supposed to represent the actual value of the franchises, and as these values are in most cases very tangible and growing rapidly, it is claimed that they should be represented by a reasonable amount of securities. The danger in this argument, however, from the investor's standpoint, lies in the fact that the communities themselves all retain the taxing power and have a perfect right, if public opinion so elects, to tax into the public treasury the entire value of these franchises. Should this program be generally pursued thruout the country it will readily be seen that both bonds and stocks of traction and other public service companies which merely represent this current franchise value will largely evaporate into nebulous ether.

The question of public regulation now centers upon the functions of state commissions. In 1915, the following states had public service commissions or rail-

road or corporation commissions empowered not only to fix rates of public utilities but to supervise the issue of their stocks and bonds and other securities, viz., Arizona, California, Colorado, District of Columbia, Georgia, Illinois, Indiana, Kansas, Maine, Maryland, Massachusetts, Michigan, Missouri, Nebraska, New Hampshire, New Jersey, New York, Ohio, Pennsylvania, Rhode Island, Vermont and Wisconsin. In Connecticut, Delaware, Idaho, Montana, Nevada, New Mexico, North Carolina, Oklahoma, Oregon, South Carolina, South Dakota, Tennessee, Virginia, Washington and West Virginia, the commissions are limited to the fixing of rates. The result of the legislation and of the decisions is that rates must be sufficient to give a reasonable return upon invested capital. This is, in effect, a public guarantee.

With reasonable rates and efficient management public regulation logically means monopoly, for the only service that competition ever renders is to insure these things. But it does not give this insurance adequately nor at a reasonable cost. Reasonable rates in the main rest upon the necessary capital investment and a fair rate of return. The holder of securities in public utilities, therefore, tends to be thrown back by public regulation upon the actual investment in the property. The rock bottom of safety is then, such a ratio of earnings to investment as will be approved by the courts up thru the United States Supreme Court, as reasonable. Such a ratio

rests upon the Fourteenth Amendment to the Constitution.

The following quotations of public utilities are as of August 1, 1916.

Issue	Last Sale or Bid	Yield Per cent
Am. Gas and El. Co.		
8% common stock (par $50)	144	2.78
6% preferred stock (par $50)	49	3.07
Coll. Tr. 5% bonds due 2007	94	5.33
Commonwealth Power Ry. & Light Co.		
4% common stock	64	6.25
6% preferred stock	85	7.06
Conv. 6% bonds due 1918	102	5.12
Pacific Gas and Electric Co.		
Common stock	58	stock dividends
6% new preferred stock	88	6.82
6% old preferred stock	89	6.74
Gen. & Ref. 5% bonds due 1942	90½	5.72
Republic Ry. and Light Co.		
Common stock	58	...
6% preferred stock	74	8.11
5% notes due 1918	99	5.42
United Light and Railways Co.		
Common stock	49	...
6% first preferred stock	74	8.11
3% second preferred stock	67	4.48
First & Ref. 5% bonds due 1932	87½	6.25

3. *Gas.*—Next to water supply, the gas business is the oldest of the public utilities. The first plant was erected in Baltimore in 1816; the second was built in Boston in 1822 and the third in New York City in 1823. The seasoning of a type of securities is done in the process of standardizing equipment and methods in an industry, and securing, thru the exchange of experience, sound manufacturing, commercial and financial methods. In this sense, the gas business is

the best seasoned of the public utilities. The capital invested in the gas business is now about one and one-third billion dollars and approximately 38,500,000 people are being served.

At one time, it was thought that the electric light industry would force the gas business to the wall. It has turned out, however, as Thomas A. Edison predicted, that competition has only served to build up a larger industry. Methods of production have been improved; by-products, especially coke and tar, have increased greatly in value. There has been a revolution in the method of illuminating thru the invention of the mantle. The gas engine has been introduced and the gas cookstove has become a household necessity. The real competitor of artificial gas is natural gas.

The gas business is one which shows strongly the economy of production on a large scale. On the basis of an investigation of the official records of the cost of producing artificial gas in seventy-four small cities thruout the North, Mr. Judson C. Dickerman has reached the conclusion that in communities consuming less than 20,000,000 cubic feet a year (places of from 8,000 to 12,000 population) operating costs, excluding taxes, probably exceed $1 per 1,000 cubic feet. With sales of 50,000,000 cubic feet (places of about 20,000) the cost should be less than 80 cents; with 100,000,000 cubic feet sales (places of 25,000 to 30,000), less than 70 cents, and with sales of 200,-000,000 cubic feet (population approximately 50,-

000), less than 60 cents. In excess of 500,000,000 cubic feet, costs would be less than 50 cents.

The per capita income of gas companies in the larger cities ranges between $6 and $7 yearly. As the commodity sold is cheaper than its substitutes, at least in cities of medium and large size, a depression in industry serves only to increase patronage.

A leading test of efficiency, apart from engineering standards and accounting practices, is the carrying on of a successful campaign for the use of gas for cooking and power, and a campaign for the sale of coke as a heating fuel.

4. *Electric light and power.*—The electric light and power industry, which began with the invention of the Edison incandescent light and the Brush arc light as a rival to gas, has become also a rival of the steam engine. This is a result of the designing of large dynamos, the economical transmission of energy over long distances and the discovery by the public of an infinite variety of uses for the current. The total capital now invested approximates two billion dollars.

Some chief points in the review of electric light and power enterprises are as follows:

(a) If the prime mover is water power, have the flowage rights been secured at reasonable or excessive prices? Is the character of the foundation for the dam known with certainty? Have stream flow records for the past ten years been compiled? Many hydro-electric installations are brilliant achievements from the engineering point of view but great disap-

pointments financially, from the fact that the completed works much exceeded the preliminary estimates in cost.

(b) Has the equipment been chosen and installed by competent experts? Until recently, obsolescence and inadequacy have been heavy charges against equipment. They are so yet where incompetent men are allowed to control.

(c) Has the market for power been thoroly canvassed? The market for light is a fairly simple function of density of population and average per capita wealth, but the market for power depends upon the local forms of industry. Careful inquiry should be made about what industries are possible customers, what drainage or irrigation pumping there is and what ice works, cement plants, and creameries might use power. Two extremely important matters connected with marketing are, whether or not the contract to supply power for local street lighting can be secured, and whether power cannot be provided for the local street railway lines.

(d) Competition should be carefully studied. Direct competition with established light and power plants is usually to be avoided. Indirect competition (or rather substitution) is important where natural gas is available, or where coal is unusually cheap.

(e) A fifth matter involves the load factor. Electricity cannot be stored successfully. It is necessary, therefore, to build a plant with a capacity sufficient to carry the load its customers put upon it during the

period when the largest number of them are using power. Such a plant will be operating at full capacity during that short period only. At all other times it will be partially idle and so deficient in earning power. The condition of a power plant with reference to the regularity or irregularity of its patronage is expressed among engineers by means of the load factor. This is the ratio of the average load to the maximum load. When this ratio is low, say 35 or 40 per cent, the cost of production is high. When the load factor is high—55 to 60 per cent—the cost is greatly reduced. The variation of cost with load factor is such in steam-electric plants that when the average load is but one-half the maximum load—designated as 50 per cent load factor—the cost of producing power will be 50 per cent greater than when the use of power is uniform. With a load factor of 33⅓ per cent, the cost of power will be doubled. The load factor of electric light and power plants ranges between 40 and 55 per cent. A great test of the efficiency of a management, therefore, is the energy with which it attempts to even up the load by geographical extension from communities with one type of industry to those with another type; by taking on customers with maximum load at different seasons, such as an ice plant with maximum load in midsummer to offset a coal mining load with maximum in November and December; and by taking customers whose patronage helps to fill up the hollows in the chart of the daily load, such as the electric cooking and ironing load of

the household to supplement the domestic lighting load.

5. *Street railways.*—The electric street railway business began in this country in 1886 with eight miles of track. In 1910, it embraced 40,000 miles of track and 90,000 cars. It can now claim 43,115 miles of track and 104,311 cars. The invested capital is estimated at five billion dollars.

At present, this is the least prosperous branch of the public utility industry. This lack of prosperity is partly an inheritance from the days of rapid obsolescence of equipment and carelessness with respect to depreciation and maintenance charges. It is also indirectly due to some of the "high finance" connected with the amalgamation of sectional lines into comprehensive systems in our large cities. In another part, it is due to causes which are still actively operating. The important factors in the cost of street-railway service are power, equipment and platform labor. Power is produced with sufficient economy at central stations, but it is not expended with skill by the average motorman on the cars. The consumption of power per passenger mile has increased as a consequence of the employment of heavier cars and higher speeds. Materials and supplies have all responded to the general rule of upward movement in price. The street railways have suffered as much as the steam railroads have suffered. The platform labor is skilled and expensive. It possesses in the strike a weapon endowed with unusual power, since an inter-

ruption of service in this industry is unusually serious in its consequences for the general public. Capable management of labor is marked by the ability to adopt a clear-cut, fair labor policy, and one which can be supported effectively in an appeal to public opinion.

Traffic conditions have changed in many ways for the worse. While the growth of population of American cities has been such as to increase the gross income of street railway companies at an average rate of nine per cent yearly, conditions have arisen which have increased operating expenses proportionately. With the building up of suburbs the average ride has increased in length, while the fare remains fixed. It is estimated that all rides of more than four or four and one-half miles on the single fare are a loss to the carrier. The haul has been lengthened still farther by the extension of the transfer system. The Chicago Railways Company in the year ending January 31, 1914, carried 385,451,459 revenue passengers and 273,456,205 transfer passengers. The growth of cities has also brought congestion in down-town districts. This means that cars move more slowly and take longer to earn the fares carried. The congestion has increased accidents and consequently damage claims. There are other elements of uncertainty which the investor must take into consideration. These are the passage of various ordinances compelling extensions as suburbs are taken in, ordering the sale of six tickets for a quarter or twenty-five for

a dollar, and ordering reduced rates for school children and for workmen at certain hours. The average fare for revenue passengers reported by Ohio street railways to the state commission, for the year ending June 30, 1915, was 3.8 cents. The average fare, including transfer passengers, was 3.4 cents. In Cincinnati these figures were respectively 4.9 cents and 3.6 cents, in Toledo 3.9 cents and 2.8 cents, in Cleveland 2.7 cents and 2.4 cents. It is a well-established fact in street-railway practice that reduction of fares exerts little or no influence toward increasing patronage, and serves only to decrease gross earnings.

As if these drawbacks were not sufficient, there has now appeared on the scene a new enemy in the automobile. The automobile in the hands of ordinary citizens is now probably responsible for a decrease of ten per cent in gross receipts from what they would otherwise have been. In the hands of the chauffeur plying for hire, the automobile becomes the dreaded jitney which takes the cream of the profitable trade and leaves to the street railway the long hauls, the sparsely populated districts, the night hours and the stormy days. Appearing first in Los Angeles in July, 1914, the jitney rapidly became popular thruout the West and South. It has now been repressed somewhat by municipal regulations. Such regulations are the fixing of routes, stops, schedules, speeds and hours of service, the limiting of the number of passengers to seating capacity, the charging of a

license fee and the requiring of bonds as indemnity for injury to property or persons. The jitney is a result of the state of employment, to a considerable extent. Most drivers are mechanics out of work who would prefer their regular trade under normal conditions. The solitary service rendered by the jitney to the street railway is to aid in carrying passengers during a strike.

It seems probable that American cities will be obliged eventually to abandon the flat-fare system and adopt the European zone system. Such a system indeed is now in operation in Milwaukee, Wisconsin.

REVIEW

Derive the following average ratios from a list of ten public utility companies in any line you may select; percentage of total capitalization the bonds form, percentage of gross earnings absorbed by operating charges, percentage of net earnings absorbed by interest charges, indicated surplus net earnings per share of stock.

Draw up a tabulation of the ratios useful in examining an income account. Send for the reports of a few corporations and apply these ratios to the income accounts given.

What is to be said of the ratios between net earnings and interest charges?

How do states control public service corporations thru their commissions and what is the present practice in this control?

How do gas companies and electric light companies divide the field, in general? In your locality?

CHAPTER XIV

INDUSTRIAL SECURITIES

1. *Industrial development.*—The amount of capital invested in industrial securities in the United States is supposed to be about fifteen billion dollars. This total represents the practically complete conversion of American business from the partnership to the corporate form, as well as the progress which has been made by growth and combination from small to large units, and from closely held to widely distributed proprietorship interests.

2. *Lack of standardization.*—The dominant characteristic of this great section of business is the variety of conditions in different lines and the fluctuations in prosperity from period to period. The clear and general recognition of what is appropriate in equipment and physical processes, and what is sound in commercial, financial and general administration which prevails in the railway business and in each branch of public utilities is lacking in manufacturing and trading companies. The investor must, therefore, discriminate much more carefully between individual concerns, and trust much less to the general characteristics of the class or type of business. This makes it an important rule that the investor should

not place his money in a line of business the fundamental conditions of which he is unfamiliar. If one invests in steel and in breweries and gathers in a miscellaneous assortment of the securities of cotton mills and chain stores, automobile concerns and shipping combinations, his ignorance will certainly find him out.

3. *Fluctuations.*—In its capacity as a carrier, the railway business is involved with every type of industry, and so represents an average of conditions. The public utilities rest upon a monopoly of local supply of certain indispensable services. These are lines of business which, by their nature, are protected from extreme fluctuations. Industrial corporations are favored by no such protection. They are upon the high seas of trade, subject to storms from all points of the compass. If they venture in new directions, they may pay the toll of being untimely; if they exploit new inventions they are likely to share the usual fate of inventors. Their equipment rapidly becomes obsolete; their locations frequently become out-of-the-way in a decade. If they find a market they are subject to unrestrained competition. The calculation of productive power and consumer's demand cannot usually be made exact. Hence over-fixation of capital is a common mistake. Earnings are everywhere dependent largely upon external conditions and these conditions are complex and unstable. To illustrate: a natural cement industry grows up to be destroyed in a decade by a Portland cement industry. This in

turn becomes overdeveloped. The cotton mills of New England are forced to divide the trade with southern mills. The southern mills develop an oriental market, only to be cut off by Japanese competition. The bicycle industry grew to annual sales of twenty-five million dollars and a decade later fell to five million.

In addition to these changes which spring from the contest of industry with industry, and the reorganization incident to economic progress, the industrial world is subject to the cycle of changes which marks the shifting relations of business to the money and the security market. Improvement is followed by activity, and activity by speculative excitement, only to end in a crisis and depression from which improvement starts again. The earnings of industrial corporations are subject to a shrinkage of from 20 to 60 per cent in a panic as compared with 10 to 20 per cent for the railway business.

A tabulation of the effect of the crisis year, 1908 will give an idea of the fluctuation of earnings to which industrials are subject.

FLUCTUATIONS OF GROSS EARNINGS

Company	1907	1908	1909
Du Pont de Nemours Powder Co.	$ 31,661,938	$ 28,027,094	$ 30,805,916
General Electric Co.	61,608,830	72,484,988	47,168,469
General Ry. Signal Co.	453,073	260,663	235,652
Johns-Manville Co.	7,032,165	5,806,782	7,577,961
Republic Iron and Steel Co.	4,046,689	2,769,147	4,227,369
Intern. Merc. Marine Co.	38,253,588	29,981,044	33,461,485
International Paper Co.	20,716,304	18,238,476	19,459,030
Pressed Steel Car Co.	36,443,304	8,589,422	10,346,816
Total	$200,215,891	$166,157,616	$153,282,698

FLUCTUATION OF NET EARNINGS

Company	1907	1908	1909
Du Pont de Nemours Powder Co.	$ 3,929,508	$ 4,929,250	$ 5,984,159
General Electric Co.	8,502,236	6,948,683	5,518,896
General Ry. Signal Co.	212,873	[1]147,344	[1]152,783
Johns-Manville Co.	525,000	252,000	343,632
Republic Iron & Steel Co.	1,971,420	1,629,346	2,902,916
Intern. Merc. Marine Co.	7,081,069	[1]903,176	5,052,914
International Paper Co.	2,838,170	1,782,097	2,180,775
Pressed Steel Car Co.	2,907,920	265,478	1,954,583
Total	$27,968,196	$16,757,374	$23,990,658

[1] Interest and depreciation not earned.

These fluctuations show how little of a safeguard that intangible value called "good-will" is in protecting earnings. Good-will serves to divide patronage between individual establishments when general conditions create it, but it does not create patronage when conditions are unfavorable.

4. *Financial structure.*—With such fluctuations it is only the most favorably situated industries that are sufficiently safe from hazard to deserve the investment of a bond holder. Whereas, in railway practice, over 60 per cent of the capital is represented by bonds, among industrials only about 33 per cent is so represented.

The first industrial bonds made their appearance twenty-five years ago, but they secured slight attention until the consolidations of the decade 1895–1905. These brought large properties under capable management, enlisted the attention of financial experts in their construction, and created issues large enough to warrant attempts to open a new subdivision of the security market. There is still a question as to

whether industrial concerns can properly issue bonds. Considering how recent has been the organization of the issuing corporations and considering also how frequently the information, which is essential to investment as contrasted with speculation, is absent, it can be said, at all events, that bonds should not be over 30 to 40 per cent of the total value of the assets. Bonds and preferred stocks together may be said to occupy the position which is occupied by bonds alone in the railway and public utility fields.

The preferred stock is the characteristic security of industrial finance. In the same way that stocks serve as a cushion for bonds, so common stock serves as a cushion for preferred stock. It can easily be shown from the tabulation on page 223 that the resiliency of the cushion is tested to the extreme.

Of the companies here named, three (Nos. 1, 2, and 10) paid 6 per cent on the preferred stock thruout the period, while six (Nos. 3, 4, 5, 6, 7 and 11) paid 7 per cent. One company, Sears, Roebuck & Company paid 1¾ per cent in 1906 and 7 per cent thereafter. The Republic Iron and Steel Company has paid a dividend each year which has varied from 1¾ per cent to 14⅜ per cent during this period.

The classification of capital claims into preferred and common stocks operates excellently. The former, with its reasonably regular return, appeals to those who can take some risk but who desire regular income, while the common stock bears all the irregularities of trade and is appropriate for the hold-

ings of industrial managers. In view of the frequency with which dividends on common stock are suspended, it is good management in industry to pro-

DIVIDEND RECORD OF COMMON STOCK

Company	1906	1907	1908	1909	1910	1911	1912	1913	1914	1915
1. Am. Agric. Chem. Co.	0	0	0	0	0	0	4	4	4	4
2. Am. Beet Sugar Co.	0	0	0	0	0	1¼	5	0	0	0
3. Am. Locomotive Co.	2½	5	3¾	0	0	0	0	0	0	0
4. Am. Woolen Co.	0	0	0	0	0	0	0	0	0	0
5. Nat'l Biscuit Co.	5	5¾	6	5¾	6	10¾	7	7	7	7
6. Nat'l Enam. & Stamp Co.	0	0	0	0	0	0	0	0	0	0
7. Nat'l Lead Co.	3	4¾	5	5	4	3	3	3	3	3
8. Repub. Iron & Steel Co.	0	0	0	0	0	0	0	0	0	0
9. Sears Roebuck Co.	0	0	0	4½	7	7 cash 33⅓ stk	7	7	7	7 cash 50 stk.
10. United Shoe Mch. Corp.	8	8 cash 25 stk.	8	10 cash 10 stk.	12 cash 10 stk.	8	8	8	8	18 cash 10 stk.
11. U.S. Steel Corp.	1½	2	2	2¾	6½	5	5	5	4¼	0

vide for new construction and for increase of working capital out of earnings in the effort to build up a foundation of assets under this class of stock.

Where obsolescence and inadequacy work as rapidly as they do in this progressive country, the neglect of depreciation and maintenance for a brief period leads to serious results. After some years of lazy profit-taking the Western Union Telegraph Company was reduced to such a condition that the new management, which took charge in 1910, was obliged to cut $13,731,143 out of its surplus, to bring the accounts back to reality.

5. *Administration.*—The condition of incessant change in the field of industrial enterprise lays the emphasis not so much on property as upon management. Mr. William L. Raymond has thus expressed the idea:

> The management of industrial concerns is a matter of far greater relative importance than the management of steam railroads or of public-service corporations—especially from the point of view of the safety of their securities. Where an entirely new business can be started without any great delay and where conditions of keen competition are likely to prevail, good or bad management is pretty nearly the whole story. Valuable and efficient plants, large working capital, control of patented articles or of some necessary raw material, all are highly important and may be of great assistance in taking a corporation thru a time of difficulty; but unless the plants are used wisely, economically and profitably by the management, they may have very little value for any other purpose and may be rendered almost useless by the competition of another concern that has as good or better plant facilities and more efficient management, and the most impressive assets as well as other advantages may be dissipated under poor management.

The point made here finds an illustration in the decline which is seen occasionally in the earning power of a plant absorbed into a consolidated corporation where owner management is supplanted by hired officer management. It is also to be seen from time to time in the wrecking of a business in the hands of a prodigal son.

The art of management has in recent years made rapid progress in the United States. The conditions of modern management are set forth in the Text on "Factory and Office Administration." The adoption of modern methods is not always a guarantee of dividends to the investor, but it is important in the sense that it shows that those in charge of the enterprise are disposed to inquire into and utilize the most efficient methods of conducting it.

In the measure that practice in any individual case departs from the generally recognized principles of first-class practice, the investor should seek further information, and raise the question of efficiency more and more definitely. Wisdom is the product of experience. In the administration of industrial enterprises it often happens that wisdom is only forthcoming after severe punishment. Mr. Roger W. Babson described this in one of his articles in the *Saturday Evening Post.*

Why is it that so many corporations seem destined to be reorganized? Why is it that the majority of stocks and bonds decline in price after the first public offering? Why

is it that the man who waits until a concern has been operating a few years before investing money therein usually gets better terms than those who go in at the first? Why is it that most industries do not really succeed until they have been thru some sort of a reorganization? I will give an answer to these questions.

New corporations are like newly married couples. They start out as optimists with everyone wishing them success. They know only the pleasant side of life, having had little experience with sickness or other misfortunes. New corporations are formed usually during prosperous times. They begin business when things are at their height, and cut their cloth accordingly. Hence when trouble and misfortune come they are unprepared to stand the blow.

A new corporation may be likened to a young married couple with a full linen closet and a wardrobe all paid for. Perhaps father has even given them a home. The expense account of newly married couples and newly formed corporations is unreal. With so many gifts and no clothes to buy, both young couples and young corporations get a distorted view of what are their real expenses. Hence from the first both are apt to adopt an extravagant policy that fails to provide for a replacing of goods consumed and for a proper maintenance of their property. Sooner or later there is a rude awakening that causes a heartburn for the newly wedded couples and usually a reorganization for unseasoned corporations.

Mr. Babson then proceeds to detail the sorrowful initial experiences of the General Electric Company, the Allis-Chalmers Company, the General Motors Company, the United States Shipbuilding Corporation, the Consolidated Steamship Lines Company and the M. Rumely Company.

A good administration usually depends upon a few

men, and often upon one man. Since transfers, organizations, factional fights and death rapidly change the personnel of most companies, it is obvious that when the personal factor is the chief cause of net earnings, there is not a suitable basis for long-term bonding.

6. *Public policy.*—The relation between the state and industrial corporations does not compare in intimacy with that which is characteristic of railways and public service corporations. However, there are two bearings which the investor should observe. One of these is the influence of the tariff, the other is the operation of laws designed to prevent unreasonable restraint of trade.

7. *The tariff.*—The tariff is a perennial source of anxiety to that class of fine industries located upon the Atlantic seaboard, which is not able to solve its industrial problem in the characteristic American fashion, by low-cost raw materials, or mass production. What the influence of the tariff is in any individual case, is, of course, a matter for special inquiry. It is not simply a matter of prosperity with high protection and prostration with low tariff rates. When the Underwood tariff of 1913 reduced the rates on manufactured rubber goods, the United States Rubber Company chronicled a great increase of business. When the same tariff decreased the rates on manufactures of leather the effect on the earnings of the American Hide and Leather Company was scarcely noticeable. It is true that free

sugar expected after May 1, 1916, may have been responsible in 1913 for the great drop in the earnings of the American Sugar Refining Company. Apparently it was the lowering of the duty on wool which destroyed the profits of the American Woolen Company in 1913. But free sugar did not injure the Corn Products Refining Company, as was predicted; and cheaper woolen and worsted cloths stimulated the business of hundreds of clothing manufacturers. A lowering of rates, with a corresponding reduction of the schedules applying to raw materials, parts, supplies, etc., will not often injure efficiently operated American manufactories; but each industry has its own special problems and safe generalization is impossible. As the amount of our manufactured articles exported to foreign countries increases, some manufacturers are even finding the tariff, with its enhancement of costs, a barrier to growth. Many business men completely confuse the operation of the normal trade cycle, which periodically cuts down industrial activity to conform to the resources of the capital market, with the effects of governmental trade policies. When the inevitable trade reaction comes in a trade cycle, the political party which happens to be in power receives the blame.

The chief disadvantage of a tariff lies in the repeated shocks of readjustment to altered rates. These readjustments are inevitable, and will recur more or less regularly so long as we finance the varying requirements of the Federal Treasury by a tax

on business operations and, in so doing, set up a strife in which manufacturers agitated by trade reactions, are pitted against consumers aroused by the high cost of living.

8. *Restraint of trade.*—In 1890 the Sherman Anti-Trust law was passed. Under its operation the Standard Oil Company of New York and the American Tobacco Company were dissolved, but the constituent parts were allowed to be held together thru a community of stock ownership. In each of these cases it was apparent that the interests of the investors were not being served by the consolidation, for when the constituent properties were liberated from the yoke they promptly showed marked improvement in profits and in the prices of their securities. It has been the recent policy at Washington to insist upon an absolute rather than a nominal dissolution of consolidations by prohibiting identity of stock ownership. This position is illustrated by the case which involves the disposal of the stock of the Southern Pacific Railway by the Union Pacific Company. The Federal Trade Commission investigates conditions tending toward a restraint of trade, and makes executive regulations, much as the Interstate Commerce Commission does with reference to railway rates.

The disadvantage of this legislation to the American investor has not been so much in its actual application as in its threat or indefinite potentiality. There have been some prolonged investigations by the Department of Justice and some suits dragging from

one over-crowded court calendar to another which have amounted almost to persecution. This difficulty is one partly inherent in the delicate economic distinctions involved, and partly a result of our amateurish method of legislating without adequate preliminary counsel, and without associated judicial interpretation. These difficulties do not touch the merits of regulation in the interest of a fair and open market for American enterprise. Those who condemn all anti-monopoly regulations either indorse the unfair policies at which public opinion is really aiming, or else they demand greater freedom than is needed by the United States Steel Corporation, which has been confirmed in its right to carry on its huge consolidated enterprise by the decision of a United States District Court.

9. *Causes of failure.*—Some of the more common causes of failure of prominent industrial corporations may be enumerated as follows: abnormally heavy promotion costs, over-estimation of the profits or economies of combination, becoming "land poor" by over-purchase of iron ore or phosphate rock properties or timber lands, inadequate provision to scrap old and to buy new equipment out of earnings, disproportion between tangible assets and total capitalization, inability to obtain competent management, "banker" management, over-bonding, deflection of working capital to pay dividends so as to make a market for stocks or provide directors an income on their holdings, and the "milking" of a corporation by burden-

some contracts or leases with subsidiary companies owned by the management, or the purchase of such companies at extravagant prices.

There are about 300,000 corporations organized for profit in the United States which, under the law, must make returns to the United States Commissioner of Internal Revenue. These returns comprise a veritable mine of information which as yet has been little worked in regard to corporate activities. On the basis of these returns Mr. Edward N. Hurley, then of the Federal Trade Commission, has made some interesting calculations and has stated his results as follows:

> Leaving out of consideration the banking, railroad and public utility corporations, and referring only to those which have to do with trade and industry, we find that there are about 250,000 business corporations in the country. The astonishing thing is that of these over 100,000 have no net income whatever. In addition, 90,000 make less than $5,000 per year, while of only 60,000 remaining, the more successful ones make $5,000 a year and over.

10. *Rules for selection.*—Distribution and averaging.—Inasmuch as industrial securities average a high yield and are not bid up against the private investor by trustees and savings banks, the careful investor who will invest only after obtaining essential information, may place a portion of his funds in industrial securities for the sake of improving his distribution and to bring up the average income. Especially may this be done to offset the theoretical loss shown by the decline of the price of bonds.

Barometer statistics.—In many industries which center chiefly upon the converting of a single commodity, such as wheat to flour, cotton to ducking, or hides to leather, it is possible to compile statistics of the prices of raw materials and finished products. Altho these may not exactly correspond to actual prices paid, yet a clue will be given as to the approximate size of the spread of prices or converting profit out of which the company must make its earnings. Changes in this spread may be compared with reported changes of net earnings or stock prices. If a close agreement appears for a period of years, these statistics may be used as a special barometer with the idea that if discrepancies show themselves they are to be made the starting points of new investigations.

Accounting and market tests.—Mr. W. Martin Swift has given the following tests for an acceptable preferred industrial stock:

For the practical investor the following rules may be laid down, subject, of course, to a reasonable variation where exceptional conditions exist. Increases of capitalization, except for the purpose of acquiring new plants, which carry with them a proportionate increase in the volume of business done, should at once arouse doubts as to the investment value of a preferred stock. Earnings available for preferred dividends, in order to render the issue high grade, should be about double the dividend rate; and in the case of a company having a bonded debt, they should be more than double. Working capital, as disclosed by balance sheets, should show an increasing tendency except in years of business depression, and these increases should not ordinarily be re-

garded as genuine unless they are reflected in the prices of the company's securities. Bonded debts should not in any event exceed 50 per cent of the aggregate market value of all outstanding securities; and where it exceeds 35 per cent, earnings on the preferred stock should be exceptionally large.

Earnings should be from 15 to 20 per cent on the capital, and half of them should be put back regularly into the property.

As to market tests, industrial stocks usually sell at from eight to fourteen times their yearly surplus earnings per share. Each branch of industry tends to have a characteristic ratio. Telephone and telegraph stocks are usually worth eleven and one-fourth times their yearly average surplus per share. These ratios rise and fall like the tides of the sea, increasing with speculative enthusiasm and declining in periods of depression and pessimism.

11. *Listing.*—Listing should not be looked upon as a hall-mark of excellence. It indicates a certain minimum standard of regularity and decency, but its chief value is to provide a ready market and a sensitive barometer by which investors' and dealers' opinion about the policies of a corporation may express itself. In providing this sensitive record, however, a means is given by which an infinite number of influences arising from market conditions may reach and influence the quotation of a security. In many cases, these influences have little or nothing to do with intrinsic value.

12. *Inflated conditions.*—A word of warning as

to the present abnormal condition of American business under the influence of the World war should be given. Great profits are being made, and stocks have been marked up to unprecedented figures. These conditions are temporary. The ordinary market ratios quoted above and elsewhere in this book do not apply to businesses influenced by war orders. The extra equipment now being provided to take care of these orders will add very little to property values after the close of the war. It may, indeed, for years to come, hang over the market as an excess equipment. Present prosperity is creating a rising tide of enthusiasm. Upon it there is being floated up from the under-world of finance a flotsam and jetsam of weak consolidations, ambitious extensions and out-and-out "gold bricks."

13. *Classification of industrials.*—The investor may carry on for himself the further study of industrial securities by defining the different classes into which business falls, and securing a general knowledge of the distinguishing characteristics of each class. He may then concentrate attention upon some one or two groups, in the endeavor to gain accurate knowledge of certain sets of underlying conditions. Among the various classes of industrials there may be recognized the iron and steel group, noted for its extreme fluctuations; the agricultural implement manufacturers, responding to changes in the prosperity of the farmers; the equipment industries catering to the railways and rising and

falling with them; and the machinery industries possessing a broader patronage. There are the tobacco manufacturers whose even prosperity bespeaks the power of a habit, and the New England textile mills whose similar prosperity is the result of financial conservatism. As footballs of national politics, there may be mentioned the shipbuilding industry and the sugar refining industry. There is the chemical industry which has made great strides thru elimination of German products, and the fertilizer industry languishing for German potash. There are the brewing stocks giving way in the face of advancing prohibition. Among the newer arrivals may be mentioned the mail order and chain store enterprises, growing rapidly, and including large items of good-will built up by national advertising campaigns.

A selection of industrial quotations, as of September 8, 1916, is here submitted.

NEW ENGLAND TEXTILE MILL STOCKS

Company	Amt. outstanding	Dividend %	Bid	Asked	Last sale
Am. Woolen Co. pref.	$34,783,800	7	...	...	$97⅛
Am. Woolen Co. com.	18,075,100	5	...	...	45⅞
Amoskeag Mfg. Co. pref.	115,004	Sh. $4½	...	...	98½
Amoskeag Mfg. Co. com.	172,506	Sh. $3	...	...	70¼
Rich. Borden Mfg. Co.	1,000,000	8	...	$165	....
Sagamore Mfg. Co.	1,200,000	11½	$245	250	....
Tecumseh Mills	750,000	6	...	142½	....
Union Cotton Mfg. Co.	1,200,000	6	...	192½	....

AUTOMOBILE STOCKS

Company	Amt. outstanding	Dividend %	Bid	Asked	Last sale
Willys-Overland pref	$15,000,000	7	...	...	104
Willys-Overland com.	37,000,000	(12% cash 5% stk.)	...	...	45
The Studebaker Corp. pref.	10,965,000	7	107	111	....
The Studebaker Corp. com.	30,000,000	10	...	...	122¾
Maxwell Motor Co. pref.	12,816,400	7	...	...	84¼
Maxwell Motor Co. com.	12,778,058	2½	...	...	86
Chalmers Motor Co. pref.	1,686,500	7	96	99	....
Chalmers Motor Co. com.	5,000,000	10	145	155	....
Packard Motor Car Co. pref.	11,656,000	7	98	100	....
Packard Motor Car Co. com.	8,000,000	(7% cash 50% stk.)	165	170	....

ORDNANCE STOCKS

Company	Amt. outstanding	Dividend %	Bid	Asked	Last sale
Colts Pat. F. Arms Mfg. Co..	$ 2,,500,000	16	840	860	....
Driggs-Seabury Or. Co.......	9,000,000	7½	...	...	83
Du Pont Powder pref. deb...	10,000,000	6	100	100	....
Du Pont Powder com.	58,854,200	20 3/10 cash 77 2/10 bond	278	285	....
Hercules Powder Co. pref....	5,350,000	7	112	116	....
Hercules Powder Co. com...	7,150,000	8	320	330	....
Niles-Bement Pond pref.....	8,500,000	6	105	110	....
Niles-Bement Pond com.....	1,746,000	10	163	167	
Winchester Repeating Arms..	1,000,000	25	1275	1400	....
Bethlehem Steel Corp pref...	14,908,000	7	...	...	136
Bethlehem Steel Corp. com...	14,862,000	30	...	...	488

TOBACCO STOCKS

Company	Amt. outstanding	Dividend %	Bid	Asked	Last sale
Am. Tobacco Co. com.......	40,242,400	20	...	...	223
Liggett & Myers Tob. Co. com	21,496,400	16	...	...	284
P. Lorillard Co. pref........	11,307,600	7	...	...	121½
Tobacco Prod. Corp. pref....	7,000,000	7	...	...	103½
Tobacco Prod. Corp. com.....	16,000,000	..	...	...	51
United Cigar Stores com......	27,162,000	7	...	...	102⅜

CHEMICAL STOCKS. PRICES AS OF JULY 15, 1916

Courtesy of Gilbert Elliott and Company, N. Y. C.

Company	Amt. outstanding	Dividend %	Bid	Asked	Last sale
By-Products Coke Corp........	$ 3,896,600	9	145	155	....
Davidson Chemical Co. com. ..	1,500,000	0	48	55	....
Graselli Chem. Co. com.	11,466,500	20	250	260	....
Merrimac Chem. Co.	979,950	20	135	140	....
Niagara Alkali Co. pref.	875,000	0	97	105	....
Semet Salvay Co.	10,000,000	11	200	275	....
Salvay Process Co.	15,000,000	12	300	330	....
Union Sulphur Co.	200,000	1,200	11,000	...	....

SUGAR STOCKS. PRICES AS OF JULY 15, 1916

Company	Amt. outstanding	Dividend %	Bid	Asked	Last sale
Amer. Beet Sugar pref.	$ 5,000,000	6	98	100	....
Amer. Beet Sugar, com.	15,000,000	3	88	89	....
Am. Sugar Ref. Co., pref......	45,000,000	7	116	120	....
Am. Sugar Ref. Co. com.	45,000,000	7	109	111	....
Cuban-Am. Sugar Co. pref.....	7,893,800	7	100	110	....
Cuban-Am. Sugar Co. com.....	7,135,600	7	220	230	....
Great Western Sugar Co. pref..	13,630,000	7	112	115	....
Great Western Sugar Co. com..	10,544,000	..	240	250	....
Mich. Sugar Co.	7,471,000	13	109	112	....
Nat'l Sugar Co.	10,000,000	6	96	98	....
South Porto Rico, pref.	3,739,500	8	116	118	....
South Porto Rico, com.	3,977,800	(40% cash, 18% stock)	180	192	....

REVIEW

Contrast industrial stocks with public utility stocks, as to security of principal, dependability of yield and fluctuations.

How does an industrial corporation differ from a railway in the manner in which money should be raised for new construction?

What does listing on the New York Stock Exchange signify with reference to the corporation whose securities are so listed?

Can you mention other important classes of industrials besides those given in the chapter?

CHAPTER XV

THE CYCLE OF TRADE

1. *Market movements.*—If the investment market were of such a character that each type of security might be brought to a stable price by the force of supply and demand the task of the investor would be very much simplified. The market for securities is, however, in a continuous state of complicated change. It is always responding to new conditions, and in so doing it is always over-running the correction and falling into opposite errors from which arise new disturbances. Among the changes there may be distinguished minor fluctuations, accidental disturbances, the ebb and flow of regular seasonal change, the movements which constitute the process known as the cycle of trade and certain other slow, long-continued changes which reach from decade to decade.

Mr. Charles H. Dow, one of the founders of the *Wall Street Journal,* and a man of rare insight, formulated with reference to these changes what is known as Dow's law. He likened the course of the stock market to a river. His conception has thus been described.

The course of prices over a long period of time resembles the course of a winding river which doubles on itself again and again, so that in traveling from one point to another,

distant perhaps twenty miles in a straight line, it will actually traverse a distance of fifty or sixty miles in making those twenty, and will often travel for some miles in a direction opposite to that of its ultimate or true course. Furthermore, the course is full of eddies which keep the straws on its surface twisting and turning back and forth all the time.

The ultimate or true course of the river is called the primary movement of prices and he said it expressed the gradual adjustment of prices to investment values resulting from the operations of investors—viz., those who bought stocks for income rather than for speculation. By value he meant the relation of the earning capacity and dividend yield of a company's stock to the general value of money so measured by interest rates. The secondary movements or swings he called the river's doublings and twistings, and he attributed these mainly to the operations of margin speculators. The surface eddies were the daily fluctuations which reflected mainly the activities of the floor traders who operate in the Exchange. Sometimes the surface eddy doubled on the actual flow of the current, and sometimes the actual flow of the current doubled on the river's true course. Traders' operations were always intimately correlated to and interwoven with those of the margin speculators and those of the margin speculators with those of the investor, the whole forming the continuous current of the river.

2. *Minor fluctuations.*—Minor fluctuations result largely from the varying contests of bulls and bears. The market is constantly passing from a condition of being over-bought to one of being over-sold. Such conditions result not only from the contagion of the crowd but from the belated efforts of those at a distance from the market who give orders on the basis of quotations a day or two old. All active traders tend to be swerved from accurate calculation by mar-

ket rumors, tips and the desire to be doing something, even tho an intelligent course of action cannot be laid out for the moment. It has been calculated that, in the period of 1899–1908, on the New York stock market there were sixty-five periods of upward movement of stocks averaging generally an advance of 7¼ points in thirty-three days, and sixty-five downward movements, averaging a decline of 6⅞ points in twenty-two days. To operate on the basis of these 5 and 10 point fluctuations is scalping. It is a business in itself, requiring access to the tape or a trading board. With this business the investor should have nothing whatever to do.

3. *Accidental disturbances.*—The security market is the most perfect organization extant for discounting the effect of expected future events but notwithstanding this, the unexpected is always happening. Such accidents were the Union Pacific corner of May 9, 1901, the McKinley assassination, the crop failure of 1901, the Balkan Wars, the Northern Securities suit in 1903, and the San Francisco fire of April, 1906. Such events usually cause only brief effects, if business conditions are sound, but they are more serious when they reenforce a previously existing downward trend.

4. *Seasonal changes.*—In this country, with its unusually prominent agricultural and raw material industries, the sharply marked and extreme climate of our continental area causes the changes of the seasons to exercise an important influence over business and

finance. The economic year begins with the January balance sheets which reveal many weak spots among industries. Failures are consequently heavy. It is a period of assured farmer's profits, with the gradual flow of money from the West to New York City. There is a large distribution of funds in the form of interest payments and dividends, and this causes a demand for investment securities. Building and business are below normal. Interest is low and stocks are low also. February and March see preparations made for spring trade. Imports are large, building becomes active, railroad traffic increases, interest rates advance a bit and there are fewer failures. April finds building at a maximum. May is a month of reaction. Building declines and imports are less. Commodity prices decline, stocks and interest are low. June continues the reaction. Altho railway earnings are large, bank exchanges are low. Commodity prices and security prices are the lowest of the year. July begins the crop movement which compensates for the slackening of building operations. Interest rises slightly. Railroad earnings decline. Stocks are low but rising. Failures are fewest of the year. August sees a further decline of building and finds clearings lowest of the year. However, there is some evidence of the coming fall boom. Railway earnings are above the average. Money flows West. Interest rises and securities rise. September finds the moving of the crops in full swing. Railroad earnings are high; bank exchanges are ris-

ing; exports are large, and they are paid for partly by large gold imports. Interest rates are higher and stocks also are high. In October, the crop and merchandise movement is at its maximum and railroad earnings reach their maximum. Bank clearings are very large. Interest moves up. Failures increase and commodity prices are rising. In November, occurs the climax of the autumn boom. Clearings and railway earnings decrease, but interest rates and stocks advance. December sees the crop movement declining. Railroad earnings are less than in October and November. The holiday trade increases bank clearings, and the financial settlement characteristic of the end of the year has the same effect. Interest is now at its maximum with money flowing from the West to New York. Stocks and bonds rise to their highest points.

It is necessary to correct most financial and trade statistics for seasonal fluctuations before the influence of the trade cycle can be clearly seen.

5. *Underlying drift.*—Underlying the ripples of the day or week, the monthly change of the seasonal adjustment and the larger changes of the trade cycle, are slowly operating forces which mark the gradual change from one epoch of business to another. The most important of these changes is the one due to normal growth. By reason of this growth the totals of all cumulative records are being increased slowly, as the country increases in population, wealth and productive power. Another underlying change,

which has now been operating with marked force for fifteen years, is the decline in value of gold, and consequently of money, with an attendant increase in the prices of most goods and services. A third cause of underlying change is the evolution of the arts and the invention of new goods and new productive processes, by which all industries are being steadily transformed in character. While some of them are pushing forward into prominence, others are sinking into the background.

In preparing figures for the study of the cycle of trade, financial statisticians usually consider it necessary to make a correction only for normal growth.

6. *Cycle of trade.*—There remains to consider what has been referred to as the cycle of trade. In those countries which possess modern credit and financial machinery business passes continuously thru the phases of a succession of cycles. The use of the word cycle is meant to imply that there is a tendency to repeat a series of steps over and over again in the same order, in an analogous, tho not in an identical, manner. These steps, stated in the simplest form, are:

1. A period of improvement and expansion.
2. A period of over-development and speculation.
3. A crisis or reaction.
4. A depression or period of retrenchment, ending again in a period of improvement and expansion.

The steps are fully discussed in Babson's "Business Barometers Used in the Accumulation of Money."

Adopting his nomenclature we can represent a trade cycle in the form of a diagram, somewhat resembling the face of a clock. The pointer moves continuously in the same direction as the hands of a clock. The places in the clock where we find the hours are represented here by a series of letters, the significance of which is given below the diagram.

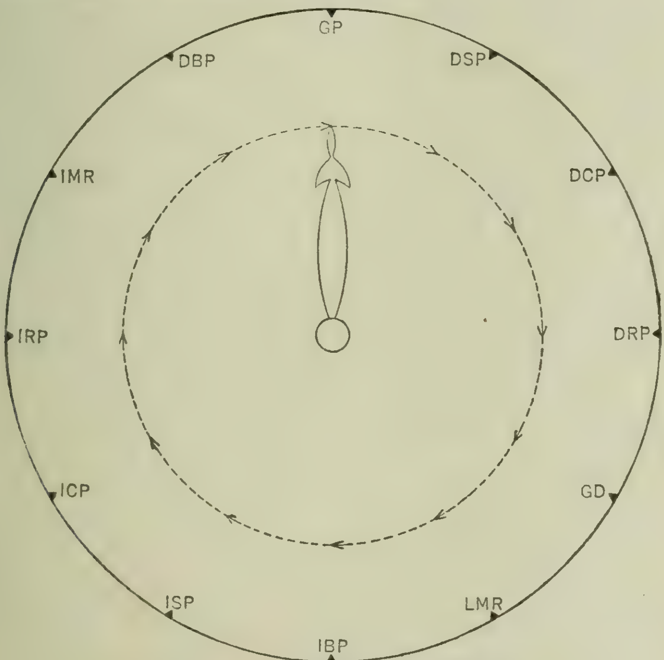


FIGURE 2. THE CYCLE OF TRADE

DSP —Declining Stock Prices.
DCP —Declining Commodity Prices.
DRP—Declining Real Estate Prices.
GD —Period of General Depression.
LMR—Low Money Rates.
IBP —Increasing Bond Prices.
ISP —Increasing Stock Prices.
ICP—Increasing Commodity Prices.
IRP —Increasing Real Estate Prices.
IMR —Increasing Money Rates.
DBP —Declining Bond Prices.
GP —Period of General Prosperity.

7. *Three markets.*—The investor is concerned primarily with the market upon which securities are bought and sold. There are two other markets which exert an important influence upon this one. These are the money market and the market for goods produced by mercantile and manufacturing trades and the mining and agricultural industries. The various phases of the interaction of these markets upon each other constitute the cycle of trade. What occurs on any one of these markets cannot be understood without examining the condition of the other two markets.

Business requires capital assets from the investor, and liquid funds from the banker. The investor depends upon business management for the safety of his principal and the stability of his rate of income, but he finds both may be endangered by derangement of the market for liquid funds. The banker's funds are replenished from business profits, and his commitments are successful if business maintains a due proportion of assets. He suffers if the investor does not do his part, and so forces him out of his proper field into that of capital investment.

8. *Period of improvement.*—In a period of improvement, new courage and enterprise manifest themselves in the business world. In the recent past such periods, following upon depression and stagnation, have occurred in the last quarter of 1904 and the first part of 1905, the second half of 1908 and the first half of 1909, the first half of 1912 and the first half of 1915. In such a period, the equipment industries sup-

plying the railroads with rails and cars and meeting the requirements of factory construction are among the first to become active. Building operations, which have been almost entirely suspended, now increase rapidly, passing their average, and sometimes even setting new records. Pig-iron production increases rapidly, while the prices of foundry grades still remain moderate. The unfilled orders of the United States Steel Corporation remain small, but earnings advance from the previous minimum. Commodity prices which have been low advance somewhat. Railway traffic is still small with a record of many idle cars. The improvement of conditions is revealed in the advance of bank clearings, which now come back to normal. Failures usually decline somewhat below the average. In short, business in this period is not large, but it is promising and it comes up from a state of depression to about normal.

Bank deposits in this period are at the maximum. Loans are very low in proportion to deposits, altho they increase as trade makes increasing requirements. Reserves which have been high in proportion to loans decline somewhat, tho still showing a thoroly sound condition. Interest rates as represented by commercial paper, remain low or harden somewhat. In general, banking conditions are sound and resources very large.

We find the security market with bonds high and advancing to their maximum for the cycle, under the influence of bankers' demand for them to employ

their surplus funds. Stocks which have been low make a rapid advance to normal or even above it. This is a direct result of the influence of an anticipation of improved earnings in the immediate future.

9. *Period of over-development.*—The period of recovery and improvement ripens into one of more and more intense business activity. Workmen are now fully employed and factories are operating at maximum capacity. The general improvement in comfort, and the knowledge that some persons are growing rich, excite the ambitious to increased efforts. Opportunity to make ventures in new enterprises is no longer looked upon critically, but it is sought after eagerly. Such periods were 1902 and the first half of 1903, 1906 and the first half of 1907, the second half of 1909 and the early months of 1910, the winter of 1912–13, and the year 1916.

In this stage new buildings have already been provided for industrial purposes, and the totals of new building permits fall below the average. Pig-iron production is large, reaching now its maximum for the cycle, and starting a decline. Pig-iron prices run up to a high point and then hold firm or make slight recessions. The unfilled orders of the United States Steel Corporation are large and attain a maximum, while the earnings of that corporation, which are high, begin to fall off slightly. Commodity prices reach a high level. Railroad traffic is usually heavy. Clearings, which have been high, turn downward. Failures are few. In general, business is sustained

much above normal, making a maximum for the cycle.

The statistics of banking show that this intense activity has put a great strain on banking resources. Loans have increased rapidly and surpassed deposits. Resources steadily decline in proportion to loans, passing for New York City banks, below 25 per cent for brief periods. Correspondingly, interest rates are raised. In general, bank resources, which have been below normal, decline still further and reach dangerous levels.

The security market reveals bonds making a rapid decline as the banks sell their holdings and call the loans secured by them, in an endeavor to recoup their resources. Stocks, in spite of the immense business being done, reach a top price and begin a decline which may be slow or rapid, in anticipation of future trouble.

10. *Period of reaction.*—The business world is now confronted with the problem of bringing industrial operations and commodity and security prices into conformity with average producing and consuming power. The rapid expansion made possible by a previous period of conservatism and economy must now be checked. The checking process is almost certain to be, in some aspect or particular, a harsh and destructive one. Accordingly, as it proceeds, there is produced an anxiety and nervousness which leads to widespread liquidation and a consequent sacrifice of values. Such a period was the latter half of 1903, the last half of 1907, the latter three-quarters of 1910,

and the long reaction which covered 1913 and 1914.

In such times building expenditures promptly drop to the lowest levels. Pig iron production makes a striking drop, while iron prices often reach a new minimum. The unfilled orders of the United States Steel Corporation fall almost to zero, while the earnings of the corporation make a similar drop. Commodity prices fall from high or average to low. Railroad traffic still continues good as the business already contracted for is cleaned up. Clearings decline from very high figures to average or low records. Failures, at first small, rapidly increase. In general, business makes either a slow or a rapid readjustment to low levels.

The banking world now passes thru a period of great strain in the effort to save fixed assets and intangible values from being destroyed by forced liquidation in a distracted market. Deposits are relatively low, but they increase as liquidation progresses. Loans rise to a great climax, passing much above parity with deposits, and so indicating the full use of banking capital. Reserves fluctuate with the course of liquidation, frequently dropping, for New York City banks, below 25 per cent (under the old reserve law), and even reaching the neighborhood of 20 per cent in the worst periods. Interest rates mount to the maximum for the cycle. In general, banking resources are called upon to the utmost, but the strain relaxes rapidly toward the end of the period.

On the security market, bonds remain steady at a

good price, indicating a demand from the far-sighted investors. As bank reserves accumulate they also go into bonds, since they are liberated from active use in business. Stocks which have been high have made a descent to minimum figures, closing from 25 to 40 points below maximum.

11. *Period of depression.*—After the storm has passed, a calm of exhaustion and intense conservatism settles down upon the business world. All large schemes have been reduced at last to sensible dimensions. "Old-fashioned" banking for a time comes into vogue again. Likewise, old-fashioned economy and direct, simple forms of wealth production prevail. The losses of speculation are repaired. Resources again accumulate and the means for a later business revival are gathered together, little by little. Such a period occurred in the first nine months of 1904, the first half of 1908 and the year 1911.

The period is often marked by considerable revival of building industry, induced by low prices for materials and labor. Pig-iron production is small and the prices of the metal are low and going lower. The United States Steel Corporation has few unfilled orders, but the business that is obtained is handled so judiciously as to cause some recovery in earnings from the minimum point. Commodity prices are at minimum levels. Railroad traffic is either poor or barely fair. Clearings are very low. Failures are well above the average in number. In general, busi-

ness is steady at low levels, with a slight improvement toward the end.

The financial market shows bank deposits at a maximum. Bank loans are low in relation to deposits and show a disposition to go lower as the prevailing economy builds up deposits. Correspondingly, reserves reach a climax in relation to loans, running for New York City banks up to 29, 31, even 33 per cent. Interest rates fall to the lowest level. We may conclude, therefore, that banking resources grow rapidly, until they pass normal and attain a high standard of strength.

On the security market, bonds have made a rapid recovery and close at high figures. Stocks, which have been very low, turn upward toward the close, sometimes with little and sometimes with considerable buoyancy.

12. *Interpretation.*—The investor is involved in these changes of values whether he desires to be or not. Since he must take part, it seems reasonable that he should not merely drift thru, but should study the meaning of the underlying drift and take advantage of it by converting his holdings at the top and bottom of the long swings, much as a sailor changes his tack but progresses on his general course.

It is common to attribute any particular long swing of stocks to the action of powerful banking or speculative interest, or to place the praise or blame upon the political party which happens to be in power. The regularity with which similar phases of the mar-

ket recur shows, however, that there is a persistent cause inherent in the nature of the industrial organization.

It has been estimated that in the period from 1871 to 1909, there were thirteen upward movements of securities averaging 22.69 months in length and twelve downward movements averaging 16.33 months in length. The completed cycle will occupy from three to four years. These major movements hinge upon readjustments of security prices to the conditions of business and of the financial markets. Some cycles, such as those of 1900–1903 and 1904–1907, are clear and symmetrical, and conform closely to theory in the development of their successive stages. Others, like the period 1908–1913, are complicated, and appear to involve the super-imposition of one interrupted cycle upon another. Any phase is liable to be compressed and neutralized, or lengthened and intensified by the interference of such outside influences as variations in the crops, in political conditions and in the state of industry in foreign countries.

Mechanical schemes of trading are to be avoided entirely by investors. The use of graphic aids to make clear the movement of various interests is of the greatest assistance however. The investor should not follow any one or two signs too closely. The thing to be judged is a complex organism of interests, not a mechanism which reveals a strict sequence of movements. The mind should be kept open to a great variety of information. This does not include

tips and the scraps of market gossip published from day to day, nor the interviews which high officials give out with disguised aim. The art, like any other, rests upon aptitude, developed and made serviceable by a study sufficiently prolonged and discriminating to enable causes to be reasoned correctly from observable effects, and to give a trained sense of the relative weight to be attached to different symptoms and combinations or conflicts of symptoms.

13. *Converting at the top and bottom.*—To protect himself in the trade cycle, the investor should make two adjustments. At a point as near as possible to the bottom of a major downward movement of stocks, he should invest in those securities that will be affected favorably by improvement in business. Such investments are convertible bonds and seasoned dividend-paying stocks. As near as possible to the beginning of a prolonged downward movement of stocks, the investor should switch to the investments which are least affected by panics and depressions. In doing this, he should take care to secure investments which can readily be marketed when the time comes to convert back into the other class of holdings. Such securities are gilt-edged bonds and short-term notes. In connection with this use they are called "time money investments." This indicates their important characteristic, namely, that their price at any time is a reasonably pure function of the ruling rate of interest for time loans.

To make these two conversions of holdings and

yet remain as safe as possible, the investor should disregard small fluctuations, stay out of the market when the indications are not clear and watch for the top and bottom markets only. When convinced that business and finance have entered a period of improvement after one of depression, or are well along in a period of speculative excitement, he should convert. He should not strain after the last point, and should be content to adjust himself for the long pull.

14. *Signs that the bottom has been reached.*—The signs that the bottom has been reached are indications that business has been cut down to adjustment with the capital resources of the country by a process of liquidation; that the banks are again in a sound and well-fortified condition; and that security values represent real property, productively efficient, and that there is not an excess capacity for the production of reasonable necessities and conveniences, according to a moderate scale of living.

15. *Signs that the top has been reached.*—The top has been reached when security prices have capitalized the earnings of such an exceptionally high state of prosperity as if they were to be permanent earnings, and when bank loans approach parity with deposits, showing that further liquid funds are only to be had from the advance of bank capital and undivided surplus. When the top has been reached, labor troubles are prominent, from the effort of wage-earners to keep ahead of the rising cost of living. Many dividend increases are announced and many new promo-

tions appear. Imports are gaining on exports, if they have not overtaken them. The leaders of market opinion are giving out interviews in optimistic vein, but merchants are cutting down their stocks as rapidly as possible. Brokers are particularly pressing with their offerings. By their widespread advertising they show that the speculative fever has taken hold of many people. Extravagant living indicates that capital is not being saved to develop industry further.

REVIEW

What are some of the causes of minor and unpredictable fluctuations of the stock market? Of seasonal variations?

Repeat the phases of a cycle of trade from memory, beginning with a period of improvement and expansion.

In the period of improvement, what is the position of bonds, of bank resources, and of commodity prices?

In the latter portion of the period of over-development and speculation, what is the position of bonds, of bank resources, of commodity prices, and of commercial failures?

What conversions of holdings must the investor make to take advantage of the long swings of the cycle of trade?

What are the signs that the bottom has been reached?

What are the signs that the top has been reached?

CHAPTER XVI

INVESTMENT BAROMETERS

1. *Gauging business conditions.*—In the study of the cycle of trade it is necessary to select certain statistics which reveal money and banking conditions, business conditions, and investment conditions. These statistics are used as barometers and inferences are drawn from them about the conditions which cannot be measured directly, or for which measurements are not available to the student.

Leading barometers for the measurement of business conditions are those representing especial groups of industries, such as the crops, railroad statistics and statistics of the steel trade; those having to do with phases of general business, such as building operations, employment statistics and immigration; and comprehensive barometers of business such as commodity prices, bank clearings, statistics of imports and exports, and statistics of commercial failures.

For measuring the conditions of money and banking there may be mentioned interest rates, the quantity of money in circulation, gold production, the imports and exports of gold, the relation of bank loans to bank deposits and the ratio of cash reserves to loans and bank deposits.

Some barometers of the security market are the average price of selected lists of bonds, of railroad and industrial stocks, transactions on the New York Stock Exchange, and the amount of new securities issued.

2. *Crop statistics.*—In all calculations of the future movement of the security market, the crops are important. They affect the cost of living, the cost of labor, the cost of many raw materials entering into manufactures, the size of the exports of merchandise and the prosperity and purchasing power of the rural population. They affect the traffic of the railways, not only thru the direct crop movement, but in the return flow of merchandise purchased by farmers. The railroads which have over 25 per cent of their total tonnage in the products of agriculture are the Atchison, the Chicago and Great Western, the Chicago, Rock Island and Pacific, the Minneapolis and St. Louis, the Texas Pacific and the Union Pacific. The movement of the crops absorbs a great deal of bank credit during the fall and early winter months.

The effect of the crops upon the cost of living may be illustrated by the fluctuations of the index number compiled by the United States Bureau of Labor Statistics. It is based upon forty-eight food articles, and is given as a percentage, the average prices of 1890–1899 being taken as 100. The statistics from 1900 to 1913 are as follows:

Year	Index Number	Year	Index Number
1900	104	1908	122
1901	106	1909	125
1902	111	1910	129
1903	107	1911	127
1904	107	1912	135
1905	109	1913	131
1906	113	....	...
1907	118	....	...

The effect of crops upon the farmers' prosperity can probably be measured best by the annual figures compiled by the Department of Agriculture, giving the value of ten crops per acre. This figure represents the average value of the produce of one acre combining ten crops—wheat, corn, oats, barley, rye, buckwheat, potatoes, hay, cotton and sweet potatoes. These crops include about 95 per cent of the total crop area of the country. The figures for recent years are:

Year	10 crops	year	10 crops	year	10 crops
1900	$10.31	1906	$13.46	1911	$ 15.26
1901	11.43	1907	14.74	1912	15.63
1902	12.07	1908	15.32	1913	16.36
1903	12.63	1909	16.00	1914	16.36
1904	13.26	1910	15.53	1915	17.10
1905	13.28	....	....	....	....

The influence of crop conditions upon the cost of doing business may be illustrated by examples comparing the fluctuations of raw materials with those of finished products. The illustrations chosen are wheat and flour, cotton and cotton textiles, and twenty pairs of raw materials and finished products. For each column 100 is the average price of 1890–1899.

Year	Wheat	Bread	Cotton Raw	Cotton Textiles	Twenty Pairs Raw	Twenty Pairs Finished
1900	94	101	124	103	118	111
1901	96	101	111	99	120	113
1902	99	101	115	100	127	118
1903	105	101	145	105	122	114
1904	138	106	156	114	123	113
1905	135	110	123	107	127	117
1906	106	110	142	117	135	120
1907	121	110	153	133	146	131
1908	132	113	135	116	135	124
1909	160	116	156	117	143	127
1910	146	118	195	127	149	132
1911	131	118	168	125	144	127
1912	140	122	148	122	151	132
1913	127	123	164	126	149	128

It will be observed that the tendency of the prices of raw materials is to crowd upward toward the prices of finished products. In this way the gross converting profit or spread is gradually reduced. The narrower this spread, the more disturbing become the fluctuations of raw material costs.

The gross amount of crop fluctuations in quantity and value may be illustrated for a few of the leading crops by a little tabulation.

CROP FLUCTUATIONS

Products	Crops Millions of bushels				Farm Values Millions of dollars			
	1912	1913	1914	1915	1912	1913	1914	1915
Corn	3,125	2,447	2,673	3,255	1,520	1,692	1,722	1,755
Wheat	730	763	891	1,012	555	610	879	930
Oats	1,418	1,122	1,141	1,540	452	440	499	556
Barley	224	178	195	237	11	96	106	122
Rye	36	41	43	49	24	26	37	41
Total	5,538	4,552	4,943	5,893	2,665	2,864	3,243	3,406

The security market does not wait for the crop record. It discounts its effect, taking crop reports

as its basis. The system of making comprehensive crop reports was inaugurated by the United States Department of Agriculture in 1866. These statistics, which are carried along for several months for each important crop, and which give not only the figures for the country but figures for each state exert a great influence upon the market. They are given as percentages of the normal yield which may be expected if no change in the condition of the crop occurs between the date of the report and harvest time. A normal yield means the yield a region would have if there were normal weather, and no unusual loss from disease, insects or other unfavorable influences. A normal yield is more than the average yield, but less than the maximum possible yield. The decline of the security market which is typical for May, June and July, is chiefly a process of discounting crop uncertainty. The decisive effect exerted by a crop may be seen in the fact that 40 per cent of the yearly high or low records made by a long list of individual-listed stocks were in the months of November, December and January, after the year's crops became known. With crop report statistics and the current quotations of futures, the student can form an estimate of the probable value of any crop of a state for the current season.

3. *Statistics of the steel trade.*—The statistics of the steel trade include the production of pig iron, the prices of Bessemer pig and other kinds of pig iron, as well as of billet steel and of various steel products such

as pipe, plate, rod and structural shapes. These statistics are given in great variety in the *Iron Age,* the *Iron Trade Review,* and other journals devoted to the iron trade. The production of pig iron conforms very closely in its fluctuations to the general state of business as revealed by composite barometers. It lags behind stocks and makes its highest record of the cycle a little before banking resources have reached their lowest point. Pig-iron prices correspond well with changes in pig-iron production, except that prices usually continue to decline and remain low subsequent to a crisis and for some time after production has revived. In the cycles 1900–1903 and 1904–1908, prices did not make a sharp advance above normal until the period of high production of pig iron was about half over. When pig iron is very high in price a recession in trade is due. The price of Bessemer billet steel corresponds so closely in its changes to that of pig iron, that it is hardly necessary to follow both barometers.

By reason of the enlightened policy of the United States Steel Corporation in making public its records, it is possible to follow the net earnings of the company by quarters, from the second quarter of 1901 to date. The unfilled orders may be followed by quarters, from the second quarter of 1902 to date, and also by months from July, 1910, to date. Unfilled orders fluctuate in close conformity with the prices of pig iron. Net earnings recover more promptly after a crisis than orders or prices, but they make

their maximum for the cycle at a later time. They also correspond more closely to pig-iron production.

4. *Railroad statistics.*—Railway statistics are given in great elaboration. This is due to the non-competitive character of the business, which promotes an open policy about information, and also to the reports of the Interstate Commerce Commission, and of various state commissions. The voluntary information is compiled and issued thru various interline railway associations, such as the American Railway Association at Chicago, which publishes the records of car surplus or shortage every two weeks, and the Bureau of Railway Economics at Washington, which publishes monthly statistics of gross and net revenue and expenses, carefully analyzed. The *Commercial and Financial Chronicle* publishes operating statistics which include practically all the railroads in the country.

Railway gross income is a good barometer of general business. It represents the income from freight and passenger service, and so represents a traffic which cuts across all other forms of economic activity, in so far as they involve the production of place utility. These charges are so basic that they may almost be called a tax upon industry. Net income is more specifically a barometer of the prosperity of railways. Railway operating expenses throw light upon the labor and material costs of doing business. The gradual increase of these expenses, to which reference has been made in the chapter on Railway Securities, con-

stitutes a great problem of railway operation. Net railway earnings calculated as a percentage of gross earnings, have been decreasing for some time. For ten representative railroads the percentage for the five years 1900–1904 was approximately 32 per cent; for the five years 1911–1915 it was about 27 per cent.

All these barometers are slow in movement as compared with securities. Railway earnings possess the peculiar property of making a sharp advance and then a decline during a period of active liquidation. The business generated at this time undoubtedly arises from the efforts of embarrassed business concerns to realize upon their working capital. There is a shifting of commodities from weak to strong hands, similar to that which takes place with reference to stocks and bonds on the security market.

Car surplus and shortage is a more prompt barometer than railway earnings. It is estimated that an average interval of three months occurs from the time a car is taken from the siding to carry freight, before the freight charge earned by it appears in the published earnings. Car surplus and shortage figures are a very erratic barometer for the purposes of the investor in general securities. The figures are absolute statistics of cars, and not percentages of the cars in existence. The number of roads reporting to the American Railway Association is never alike for two months in succession.

5. *Building statistics.*—The statistics of building

operations originate from two sources—municipal building permits and contracts awarded. Building permits are less accurate, since they are estimates made, often, before contracts are let. They often include permits which are never subsequently utilized by the erection of buildings. They do not include structures in municipal areas for which permits are not required, such as city, state, county and Federal structures, nor do they include structures built outside of municipal areas as in suburbs, villages and the open country.

There is a large seasonal fluctuation in building operations varying, for twenty leading cities, from about thirty million dollars in January to sixty million dollars in June. This variation must be eliminated before the cyclical movement can be seen clearly. When this correction has been made, building statistics will be found to keep very close company with the fluctuations of standard railway stocks. They have an important peculiarity, however. They usually make their top for the cycle and begin a slight decline before shares reach maximum figures. The recovery of building after a panic is very prompt. Building is sensitive to banking conditions, since the building of large structures usually requires either the sale of real estate bonds to investors or the increase of capital by a corporation.

The statistics of the number and estimated cost of buildings as appearing from building permits are compiled by the F. W. Dodge Company and the

Bradstreet Company. The list of cities is over one hundred, but it is not identical in the two reports.

Statistics of the number and amount of actual building contracts let are compiled and issued as a special publication by the F. W. Dodge Company of New York City.

6. *Employment, wages and immigration.*—In general, the statistics of employment are not exact enough to use for barometric purposes. Even the experts are at great variance as to the number of unemployed persons in periods of distress. However, the New York Labor Department for some years has published at monthly intervals the statistics of unemployment reported by the trade unions of the state.

The statistics of strikes, altho published from time to time by the United States Bureau of Labor Statistics, are not made available promptly enough for barometric purposes. The general theory with reference to strikes is that they are most frequent at the climax of good times when the rising cost of living pursues the wage-earner, when the sight of luxury everywhere arouses in him the desire to participate in it more largely, and when large corporate earnings and a generous state of public opinion make the chances for winning appear good. At such times the demand for labor promises the speedy installation of any strikers who may be discharged in positions with other employers. Strikes are also frequent at the end of a period of depression. Here improvement in business is clear, and conditions seem to make possi-

ble wage advances which will compensate for reductions made during the preceding crisis or depression. The statistics of the number of persons out of work are better than those of the number of strikes. The most significant object of a strike to the investor is a demand for increased wages.

A sample of the material reported by the New York Labor Department is as follows:

Trades	Percentage of Members of New York Trade Unions Reported Idle.			
	Dec. 31, 1914	Feb. 28, 1915	Dec. 15, 1915	Feb. 15, 1916
Manufacturing	39.7	30.6	24.0	14.0
Building	48.2	52.8	30.9	36.0
Transportation	17.5	19.8	8.9	11.4
Miscellaneous	9.5	8.0	5.9	6.7
Total	35.7	32.2	21.9	17.0

The incoming of alien immigrants has long been reported monthly by the United States Government. The statistics of net immigration—arrivals minus departures—have only been compiled since July, 1907. These figures are of no value for prediction. They record a slow response of the movement of population to industrial changes. They are highly seasonal, involving a large spring flood and a lesser fall flood. They represent only in part the changes of the American labor market, for they are complicated by the change of social, political and economic conditions in the European supplying countries.

7. *Commodity prices.*—Commodity prices are almost endless in quantity. The trade press of each line of industry carries daily, weekly and monthly

prices of the raw materials and finished products in which the trade is interested. Reference is made to these statistics in the chapter on Industrial Securities. The statistics of crops and of the steel trade have already been referred to in this chapter. Copper is an earlier barometer than steel, but it is complicated by foreign influences, since one-half of the metal is exported. In general, metal prices follow the history of the equipment industries. The statistics of the lumber trade are not gathered in a very satisfactory way. Individual commodities show erratic fluctuations in price such as the rise of sugar in the latter part of 1911 and of 1914, of cotton in the early part of 1904 and the middle of 1910 and of copper in the winter of 1906–1907. Turpentine made a peak in early 1911 and rubber in 1906 and 1910. If we study the prices of individual commodities it is difficult to find a clear and direct connection between them and security prices. In the year 1907, which was characterized by a steady and radical decline of stocks, we find no prominent commodity prices giving clear warning. Certain commodities such as pig iron, billet steel, turpentine, copper and rubber fell as stocks declined. Others such as sugar, cotton, yellow pine and petroleum closed the year higher than they entered it, while wool made no downward movement until March, and coffee continued its moderate downward trend of 1906.

To dispose of these irregularities and uncertainties and show the general trend of commodity prices, in-

dex numbers or composites which sum up, a group of constituent prices have been compiled. Of these index numbers the best known are Bradstreet's, Dun's, the Annalist's, Gibson's and the compilations of the United States Bureau of Labor Statistics. Bradstreet's number is the product of adding together the wholesale prices of one pound each of a miscellaneous list of ninety-six commodities. Gibson's number, which is furnished to subscribers to the Gibson service, is the average cost of foodstuffs, embracing twenty-two articles, and calculated on the Dun system of weighing. Dun's index number is the sum of a list of wholesale prices calculated separately for breadstuffs, meats, dairy and garden products, other food products, clothing, metals and miscellaneous. These are combined into a general number by being added together. The Annalist's index number is the price of twenty-five foods at wholesale. "The relation of the mean price of each selected commodity during the week to the average price for the base period—the ten years 1890–99—gives the relative. The sum of the twenty-five relatives, divided by the number of commodities, gives the index number." The revised index number of the United States Bureau of Labor Statistics is the arithmetic mean of the relative prices of 145 commodities, the base price or 100 being the average of the period 1890–1899. Because of insufficient appropriations, the Bureau of Labor is unable to issue this number and other valuable index numbers compiled by it until the close of

each year. They appear too late, therefore, to be of more than historical value to the investor.

The various numbers which have been referred to here tell practically the same story in so far as the investor's interest is concerned. They are slow in their accommodation to the changes which stock movements forecast. In 1907, Bradstreet's number rose for three months after stocks had turned downward. In 1908, it continued to decline for four months after stocks had turned upward. In the winter of 1909–1910, there was no definite indication given by it, except that prices were very high, yet stocks did not break for six months. In 1912, when prices were equally high, stocks did not break for eight months. Prices continued high for six months after stocks broke. High commodity prices require the use of more money to do business, and they lessen the profit of a given mass of business. A rise of prices implies, with equal clearings, a smaller amount of business being done.

A comparative table, for a recent period of some of the index numbers referred to is as follows:

		Annalist's	Dun's	Gibson's	Bradstreet's
1915	Jan.	150.901	124.168	64.7	9.1431
	Feb.	156.599	125.662	68.0	9.6621
	Mar.	152.882	124.153	66.7	9.6197
	Apr.	153.212	125.090	67.8	9.7753
	May	153.923	126.649	68.3	9.7878
	June	146.724	125.992	64.3	9.7328
	July	147.549	124.958	64.4	9.8598
	Aug.	142.977	125.079	63.1	9.8113
	Sept.	137.229	124.684	58.5	9.7934
	Oct.	140.674	126.663	60.6	9.9778
	Nov.	144.379	130.467	60.6	10.3794
	Dec.	148.683	133.140	62.1	10.6473

		Annalist's	Dun's	Gibson's	Bradstreet's
1916	Jan.	154.521	137.666	65.6	10.9163
	Feb.	158.351	142.260	68.2	11.1415
	Mar.	161,810	142.110	69.5	11.3760
	Apr.	165.717	145.690	71.3	11.7550
	May	168.301	146.197	72.3	11.7485
	June	165.636	145.397	70.8	11.6887
	July	169.535	145.142	71.9	11.5249
	Aug.	176.205	143.930	...	11.4414

8. *Clearings.*—Bank clearings are the volume of checks presented at banks other than the banks where the deposits drawn upon are located. Accordingly they form a part of the records of transactions between banks. Since from 90 to 95 per cent of American business is done by checks and drafts, these records form one of the best barometers of the speed and volume of business. The exact composition of the statistics depends upon what items are reported by the banks, and these change somewhat from time to time. Bank consolidations decrease the total in a locality. The growth of the check using habit increases it. An increase in commodity prices increases clearings thruout the country; an increase in security prices increases the clearings of New York City. The clearings of the United States, exclusive of New York City, are fairly steady. They are slow in making accommodation to changes impending. They represent the gradual growth of agriculture, manufacture and merchandising. The clearings of New York City, which are about 60 per cent of the total, are fluctuating, and represent especially the activity of the operations of speculation and investment. New York City clearings, therefore, conform closely

to stock prices. In a period of liquidation, clearings in the West continue to increase for some time after those in the East have begun to decline. When clearings in New York City after several months of sharp liquidation fall to a small sum, the indication is that the shifting of property incident to liquidation is completed, that the sails of business are properly trimmed and that speculation is dead, so that the way is cleared for a gradual improvement. Seasonal change in clearings is very great, and should be allowed for in preparing figures to reveal the state of the cycle of trade.

The statistics of clearings are compiled by Bradstreet, ***Dun's Review,*** and by the *Commercial and Financial Chronicle.* The *Chronicle* figures for a recent period are as follows (in billions of dollars):

	1914		1915	
	All	Outside N. Y. C.	All	Outside N. Y. C.
Jan.	16.2	6.8	13.5	6.2
Feb.	12.9	5.6	11.9	5.4
Mar.	14.3	6.4	13.8	6.3
Apr.	14.9	6.4	15.0	6.2
May	13.2	5.9	14.6	6.0
June	13.9	6.1	14.1	6.1
July	14.5	6.3	14.9	6.2
Aug.	9.9	5.4	14.3	5.7
Sept.	10.0	5.4	15.8	6.1
Oct.	11.7	6.1	20.1	7.4
Nov.	11.1	5.7	19.4	7.5
Dec.	12.6	6.1	20.3	8.0

REVIEW

Enumerate the leading barometers.

Group them according as they pertain to the money market, to the security market or to general business.

Outline the relations between the movements of the price of pig iron, and those of unfilled orders of the United States Steel Corporation.

What are the chief items of railway statistics that serve as barometers?

Where is the top of building statistics, with reference to the top of the stock market? Why?

How are the general trends of commodity prices ascertained statistically?

CHAPTER XVII

INVESTMENT BAROMETERS (*Continued*)

1. *Imports and exports.*—Our exports of merchandise consist so largely of our surplus products, and they are so greatly affected by variations in the crops, that it is not necessary for an investor to follow the figures (the conditions during the European war aside) if adequate weight is given to the crops thru other barometers. Besides this, a reason for not following them is that they are very carelessly valued. The significance of import statistics is only to be gathered by a somewhat prolonged study of the character of the imports themselves and the influence their purchase and use has upon the financial strength of the country. Imports of raw materials are a better sign than imports of finished articles, particularly luxuries. If imports pass over $14.00 per capita yearly, a trade reaction usually follows within a year or two. The statistics are influenced greatly by tariff changes and by the condition of business abroad. In general, imports rise and fall with American commodity prices. In periods of depression following a crisis, imports of merchandise decrease and exports increase. The low prices attract foreign buyers, while American consumers ab-

stain from luxuries or resort to cheaper domestic substitutes. Increased imports of gold then balance the exchange and exert a lifting power upon prices and a broadening power upon the basis of bank credit. In such a time of economy the reduction in the volume of travel abroad, resulting in lessened expenditures by American tourists, causes a falling off in this method of balancing our exports. Large exports of gold are considered a bad sign. They may indicate the growth of luxury beyond our means to finance permanently; they may signify high prices and poor crops, or they may imply a sudden distrust of our securities abroad and a consequent demand for liquidation in bullion.

Of the in-and-out movement of merchandise, a brief tabulation (expressed in millions of dollars) is as follows:

1914	Exports	Imports	Excess of Exports (Ex.) Imports (Im.)
Jan.	204.1	154.7	49.3 Ex.
Feb.	173.9	148.0	25.9 Ex.
Mar.	187.5	182.6	4.9 Ex.
Apr.	162.6	173.8	11.2 Im.
May	161.7	164.3	2.5 Im.
June	157.1	157.5	.5 Im.
July	154.1	159.7	5.5 Im.
Aug.	110.4	129.8	19.4 Im.
Sept.	156.1	139.7	16.3 Ex.
Oct.	194.7	138.1	56.6 Ex.
Nov.	205.9	126.5	79.4 Ex.
Dec.	245.6	114.7	131.0 Ex.
1915			
Jan.	267.8	122.3	145.5 Ex.
Feb.	298.7	125.1	173.6 Ex.
Mar.	296.5	158.0	138.5 Ex.
Apr.	294.5	160.6	133.9 Ex.
May	273.8	142.3	131.8 Ex.

	Exports	Imports	Excess of Exports (Ex.) Imports (Im.)
June	268.6	157.7	110.9 Ex.
July	268.0	143.1	124.9 Ex.
Aug.	262.0	141.7	120.2 Ex.
Sept.	300.7	151.2	149.4 Ex.
Oct.	334.6	148.5	186.1 Ex.
Nov.	331.1	164.3	166.8 Ex.
Dec.	359.3	171.8	187.5 Ex.
1916			
Jan.	335.5	184.2	151.3 Ex.
Feb.	409.8	193.9	215.9 Ex.
Mar.	409.8	213.6	196.3 Ex.
Apr.	404.3	217.8	186.5 Ex.
May	400.8	211.7	189.1 Ex.

2. *Commercial failures.*—The statistics of commercial failures have already been given attention in the chapter devoted to Industrial Securities. Liquidation is the one sovereign remedy for over-fixation of capital. The trade phrase goes, "failures are chiefly due to lack of capital." This is about as expressive as to say that a man died from lack of breath. Failures are forced upon industry by the gradual exhaustion of the resources of investors and bankers, and the progress of this exhaustion can be followed clearly thru banking statistics. When business is unsound too few failures are a bad sign. They indicate that the bankers and investors have taken on the load of carrying a group of unnecessary business establishments still further. This means more robbing of the capital fund to meet the running expenses of these establishments, and a greater degree of exhaustion will result when these burdens are finally dropped. A logical failure is like a surgical operation. It may

be disagreeable but it is better encountered early than late. After a period of overtrading and speculation, and when failures begin to be frequent, a large percentage of them indicates that liquidation is proceeding rapidly and will be over quickly. The high records of failures of the winters 1901–2, 1907–8, 1911–12 and 1914–15 were quickly followed in each instance by a good advance in securities. When liquidation is most active, securities are at their lowest. They have been thrown overboard by business men and bankers in the endeavor to save going businesses.

The indication of failures with reference to the top of the security market is not so clear. An exceptionally small number of failures, accompanied by exceptionally heavy clearings, indicates that all sorts of enterprises, the new, ill-conceived and inefficient as well as the old and profitable ones are being carried along. This is a condition of indiscrimination too good to last long. The failures of a boom period are characterized by a low percentage of assets to liabilities, indicating that the buoyancy of the times is so great that everything but absolutely bankrupt concerns can be floated.

The statistics of liabilities and assets in failures are liable to be distorted by the dissolution of large individual corporations. Dr. Douglas R. Little, the Editor of *Dun's Review,* has said, "The number of failures reflects conditions more accurately than do the aggregate liabilities."

The reporting of failures is done by Bradstreet's and Dun's. These two records are not identical, but they have the same barometric value.

A brief tabulation of the number of failures, as reported by Bradstreet, is as follows:

	1914	1915	1916
Jan.	1729	2378	1799
Feb.	1206	1865	1608
Mar.	1260	1876	1637
Apr.	1221	1674	1267
May	1181	1436	1404
June	1162	1485	1252
July	1219	1443	....
Aug.	1191	1275	....
Sept.	1367	1267	....
Oct.	1445	1349	....
Nov.	1586	1399	....
Dec.	2213	1585	....

3. *The money market.*—There is a tendency toward an inverse relation between the price of bank credits and the price of all commodities, including securities. This relation is described by George G. Henry:

A low rate of interest or the likelihood of low rates has the effect of stimulating security prices, because banks and other money-lending institutions are forced into the investment market when they cannot loan money to advantage. Conversely, a high rate of interest or the prospect of high rates has the effect of depressing prices, because banking institutions sell their securities in order to lend the money so released.

When money rates are low, securities tend to advance to the point where the return upon them is no greater than that derived from the loaning of free capital. When rates are high, securities tend to decline to a point where the return is as great.

There was in 1916 a considerable spread between the price of bank credit and the yield of gilt-edged bonds. This is due to a feeling of insecurity regarding the present position of business and a desire to fortify present commitments by large reserves of actual cash. There was also an expectation that after the war domestic interest rates will advance, as the rates of Europe and America are equalized.

In the cycle of trade, interest rates, as represented by commercial paper, are steady at a low level while stocks are rising. When stocks are at the top, interest rates run up rapidly to high figures. When stocks are falling, interest rates continue rising to higher levels, making their maximum for the cycle. when stocks are at the bottom, interest rapidly falls from high to low.

Call-money rates are the best barometer of the immediate situation. Call money is most used when rates are very high and very low. Time loans are supposed to represent not only the immediate situation but an expert forecast as to what the average value of bank credit will be during the life of the loan. As a matter of fact, time-loan rates exhibit very little wisdom of foresight. They are not much more than call rates slightly raised, and they are influenced largely by custom, as in their respect for 6 per cent as a maximum. Four months' money and gilt-edged bonds move quite accurately in inverse relation.

Interest is influenced by the quantity of money in circulation, altho currency forms only a small fraction of the capital available at any time for meeting the demands of borrowers. A chief requirement of a modern monetary system is that there should be elasticity of currency when one of the recurrent spasms of liquidation seizes the community. This elasticity is obtained by the possibility of issuing a legal tender for debt payment on the security of available forms of current assets. This elasticity has, at last, been provided for American finance. Interest becomes affected by the supply of gold thru the medium of currency. Hence the significance of gold imports, and exports. Hence also the significance of the increased production of gold, which decreases the purchasing power of money, and in so doing raises the interest rate. In reality there is added to interest an indemnity figured on the expected depreciation of the principal during the term of the loan.

There are three leading rates of interest currently quoted: the rate for call loans, for time loans, and for commercial paper. Time-loan rates are again subdivided according to the length of the period, as thirty days, sixty days, ninety days, four months, five months, six months and one year. Commercial-paper rates are divided according to the length of the term and the quality of the paper.

A typical interest quotation of Boston for September 8, 1916, is as follows:

Call money	3
Time money—	
Four and six months	3¾ at 4¼
Sixty and ninety days	3¾
Commercial paper	3¾ at 4
Corporation notes	3½ at 3¾
Year money	4¼
Boston Federal Reserve Bank rates.	
10 days or less	3
Over 10 up to 30 days	3½
Over 30 up to 90 days	4
Trade acceptances not over 3 months	3½
Agricultural paper, 90 to 180 days	5

The monthly range of interest for 4–6 months paper in New York City, for a brief recent period, has been as follows:

	1914	1915	1916
Jan.	4 —5½	3½—4¼	2¾—3¼
Feb.	3½—4¼	3½—4	2¾—3¼
Mar.	3½—4¼	3¼—3½	3 —3¼
Apr.	3 —4	3¼—4	3 —3¼
May	3¼—4	3¼—4	3 —3¼
June	3¼—4¼	3 —4	3¼—3¾
July	3½—5½	3 —3½	3½—4¼
Aug.	5½—7	3 —3¼	....
Sept.	6 —7	3 —3¾	....
Oct.	6 —7	3 —3½	....
Nov.	4½—6½	2¾—3¼	....
Dec.	4 —5	2¾—3¼	....

4. *Banking barometers.*—Undoubtedly the most serviceable barometers for determining future events in the security market are those which reveal the state of banking credit. The quantities and ratios used to measure this are loans; deposits; ratio of loans to deposits; loans, discounts and investments; resources; ratio of loans, discounts and investments to resources; reserves, ratio of reserves to loans, etc. The reports required of all members of the Federal Reserve banks make available uniform statistics

from all national banks, and all state banks and trust companies which have become members. The bank statements for New York City, which exercise the most direct control over the security market and which comprise all members of the clearing house are available each week.

The principal banking barometers are the ratio of loans to deposits and the ratio of reserves to loans. The typical positions and movements of these barometers in the four periods of the trade cycle have been indicated in the last chapter. When loans for New York City banks approach parity with deposits, curtailment begins by the marketing of bonds held by the banks as investments. The price of bonds, therefore, turns downward. When loans mount to 103 and 104 or higher, liquidation of stocks is promptly begun. The banks call their loans, and borrowers whose funds have all been absorbed in business sacrifice their investments to make payment. The process of extending bank credits is a slow one, covering several years. The process of liquidation to replenish bank resources is rapid, not extending over nine or ten months. The reaction carries loans much below deposits; in a typical case to or below the 95 per cent line. The surplus money so accumulated lowers interest rates. As interest rates fall the fixed yield on bonds appears more attractive. Since business enterprise is often at a low ebb temporarily, the banks employ their funds by investing in bonds. Accordingly bonds make an excellent recovery before

the commencement of the period of business recovery, which carries with it the demand for advances to serve as current assets in trade.

A second barometer is the ratio of reserves to loans. Under the National Banking Act, the national banks in New York, Chicago and St. Louis were required to keep 25 per cent of their deposits in cash in their own vaults. In fifty-one other reserve cities, the national banks were required to keep like reserves, at least one-half of which must be in their own vaults, and one-half of which might be kept with correspondent banks in the three central reserve cities. "Country" banks were obliged to maintain 15 per cent reserves, two-fifths in their own vaults and the remaining three-fifths permissibly with correspondent banks in the reserve or central reserve cities.

According to the Federal Reserve system put into operation November 16, 1914, the banks in twelve central reserve cities must in accordance with an amendment of June 21, 1917, hold 13 per cent reserves; the banks of reserve cities (now fifty-five in number) must maintain 10 per cent reserves; and other banks in the system must maintain 7 per cent reserves. All of this required reserve must be deposited in Federal Reserve Banks. This lowering of the reserve limits together with the establishment of an entirely new system of inter-bank relations will modify the significance of the reserve ratios of New York City banks. The exact barometric significance of the new ratios

cannot be found until a series of trade cycles has occurred under the new system. This barometer must be placed somewhat in the background for the time being, and reliance put chiefly on the ratio of loans to deposits.

Recent statistics of the ratio of loans to deposits, for New York City banks, are as follows:

	1914	1915	1916
Jan.	104.11	105.09	97.37
Feb.	104.03	104.20	97.48
Mar.	104.12	104.30	97.81
Apr.	103.02	102.76	98.86
May	102.09	101.62	99.80
June	102.62	101.56	100.36
July	104.66	100.70	100.29
Aug.	108.73	100.19	101.29
Sept.	109.95	98.29	.....
Oct.	109.88	97.77	.....
Nov.	108.93	96.93	.....
Dec.	108.03	97.53	.....

5. *Bond barometers.*—By averaging the quotations of a number of bonds of a given type, the factors influencing classes of securities may be ascertained. The underlying influences affecting the entire group are so reenforced that a barometer is created which reveals both the trend of the particular class of security in the cycle, and the trend which persists from cycle to cycle. Such barometers for bonds are compiled by the *Wall Street Journal*, by the Brookmire Economic Service, and by Babson's Statistical Organization.

The law of bond movement in the cycle has been discussed in the presentation of the four periods. Bonds respond primarily to interest rates. However,

the more speculative bonds, whose security is in the process of being perfected out of business earnings, will respond according to their speculative character to the good or bad news of the business world. In a period when interest is low, but business bad, bonds will be drawn in contrary directions by opposing forces, and will respond upward or downward according to whether they are investments or speculations. The idea is thus expressed by Geo. G. Henry:

> High-grade bonds, such as choice municipals, whose safety cannot be impaired by any extent of depression in business, will advance, because their money price is influenced almost wholly by money rates. If their interest is certain to be paid, no matter what business conditions may become, they cannot be greatly affected by a reduction of earnings, and consequently the influence of low money rates is left to act practically alone. Middle grade bonds will remain almost stationary, low money rates tending to advance their price, and the fear of decreased earnings tending to depress them. The lowest grade of bonds and stocks, whose margin of security even in good times is not very great, will probably suffer in price because the fear of default in interest and of reduction in dividends will operate much more strongly than the mere stimulus of low interest rates.

In periods when interest rates are high and business is good, bonds will respond, each type according to its kind, in the opposite manner to that just described. Because of the ready response of bonds to interest rates they have a distinct priority of movement over stocks. They constitute one of the chief means of calculating the future movement of stocks.

From cycle to cycle during the last sixteen years,

bonds have stood at lower levels of price in each cycle than they occupied in corresponding periods of the preceding cycle. The decline of the purchasing power of money, with the resulting rise of interest rates, operates to discount at a higher and higher rate all securities bearing a fixed rate of income.

The Babson bond barometer, which averages the price of ten selected bonds, is for recent periods as follows:

	1914	1915	1916
Jan.	92.5	89.2	91.8
Feb.	94.0	89.0	91.8
Mar.	93.2	88.7	91.6
Apr.	93.4	89.8	91.4
May	93.0	89.2	91.5
June	92.5	88.7	92.3
July	90.9	87.5	92.0
Aug.	89.5	87.2	...
Sept.	...	86.6	...
Oct.	...	88.2	...
Nov.	...	91.2	...
Dec.	87.7	91.8	...

6. *Stock barometers.*—Stock barometers are made in a manner analogous to bond barometers, by averaging the prices of a selected list of issues. For the general position of stocks in the cycle, with reference to the barometers of banking and of business, the reader is referred to the discussion of the four periods in the last chapter. The better the quality of a stock is, the more it acts like a bond. The worse a stock is, the more it depends upon earnings, the "psychology of the crowd," the operations of pools, etc.

One of the leading stock barometers is the *Wall Street Journal's* separate averages of 20 railroad

shares and 12 industrial shares. John Moody presents a barometer of 20 copper shares. Babson's Statistical Organization prepares an average of 10 shares, all of which are rails except the stock of the Pullman Company, which might almost be called a tenth rail. Thomas Gibson calculates separately the averages of 23 rails, 18 industrials, 41 rails and industrials combined and 8 coppers.

The figures of the *Wall Street Journal* stock barometers, for 1914, 1915 and a portion of 1916, are as follows:

		Twenty Railway Stocks		Twelve Industrial Stocks	
		High	Low	High	Low
1914	Jan.	109.43	103.51	82.88	78.43
	Feb.	109.07	105.04	83.19	81.31
	Mar.	105.76	103.17	83.43	81.12
	Apr.	104.98	99.24	82.47	76.79
	May	103.64	101.36	81.66	79.16
	June	103.54	100.63	81.84	79.30
	July	103.05	89.41	81.79	71.42
	Aug.				
	Sept.		Stock Exchanged Closed		
	Oct.				
	Nov.				
	Dec.	92.29	87.40	76.86	73.48
1915	Jan.	94.05	88.19	78.41	74.36
	Feb.	91.91	87.85	77.51	73.81
	Mar.	93.37	87.94	82.14	74.76
	Apr.	98.75	92.84	90.91	82.51
	May	26.94	91.75	90.78	79.83
	June	94.17	91.68	92.38	84.16
	July	92.55	88.66	93.12	87.27
	Aug.	95.70	92.61	99.51	92.92
	Sept.	98.96	93.49	114.05	100.12
	Oct.	107.04	97.55	121.29	111.91
	Nov.	108.28	106.36	127.04	116.79
	Dec.	107.35	104.88	134.00	125.28
1916	Jan.	107.76	100.75	128.19	120.23
	Feb.	103.32	101.00	125.75	120.15
	Mar.	103.73	100.65	125.64	119.03
	Apr.	102.88	99.11	122.84	111.22
	May	108.76	100.68	127.77	112.91

7. *Investor's service.*—In connection with the study of the cycle of trade, the investor can derive great assistance from the investment services of the Brookmire Economic Service, Moody's Investor's Service and Babson's Statistical Organization. Mr. Thomas Gibson's service may also be mentioned, altho it is intended primarily for those who wish to speculate, rather than for investors.

8. *Brookmire Economic Service of New York City.*—This service has a number of parts.

The *Forecaster* issued weekly, describes manufacturing conditions, the state of the commodity markets, and the security market, agricultural conditions and financial conditions. There is a page of statistics and a diagram to indicate the significance the current phase of the trade cycle has for manufacturers, merchants, bankers and investors. *Forecaster* Supplements are published from time to time.

The Trend Chart, a large graph of 20 bonds, 20 rails and 12 industrials is published monthly, with much explanatory matter and statistics of volume of transactions.

The *Analyst* is published weekly. It contains the investor's compass, a discussion of the investment situation, statistics of securities and a small graph of commercial paper interest rates in relation to 10 rails, etc.

The *United States Barometer Chart,* issued monthly, is a composite chart of 32 stocks, of a barometer of banking resources, and of a barometer of the general state of business. This also carries as a

picture chart the United States barometer and the European barometer.

The *New York Bank Statement and Security Price Chart* is published three or four times a year, additional statistics being supplied weekly. The *Lumber Chart* appears quarterly and additional statistics are supplied weekly. Similar to this is the *Steel and Hardware Chart.*

The *Building Chart* is printed once or twice a year, additional statistics being supplied weekly. There is a *Trade Bulletin* published twice a month, consisting of a Commodity Section and a Financial Section.

A *Credit and Sales Map of the United States* is published monthly, showing by means of colors the degree of prosperity of each section of the country.

Collectively this service presents the most helpful group of graphic charts available to the investor.

9. *Moody's Investor's Service.*—The service of John Moody of New York City centers upon a weekly *Review of Financial Conditions* which presents a resumé of the conditions of the time. This is supplemented by frequent quotation and valuation records, by compilations of the gross and net earnings of prominent corporations, by a monthly page of barometer statistics, by volumes analyzing corporation reports and by an inquiry bureau.

The following is an authoritative description of the various features of the service:

The aim of the service is to furnish the investor with all needed information in regard to both security values and

financial and economic conditions. To cover the security values, there is published "An Analysis of Public Utilities," "Industrials and Railroads"; and each of these two books has been expanded from an analytical work only to a combined manual and analysis. The manual gives the income accounts and balance sheets for a series of years, while the analytical discussion of each company gives ratings and opinions. These books are supplemented by five monthly circulars which are: a monthly *Analysis of Business Conditions*, indicating the probable future of business; a monthly *Quotation Record*, showing prices and yields of all the most important corporation securities; a monthly *Report of Steam Railroad Earnings;* a monthly *Report of Public Utility and Industrial Earnings;* and a monthly *Analysis* of the most important New Investment Issues.

Still further, in each week of the month except one, there is furnished an analysis of the earnings and prospects of some important corporation; and these analyses differ from any other published, in that instead of confining themselves to a discussion of the figures given out by the companies themselves, they analyze the economic factors which make or unmake earning power. There is also published each week a *Weekly Review of Financial Conditions*, which is a general review or discussion of security values, stock market factors, business conditions and financial tendencies.

Finally, to make doubly sure that nothing is omitted which the investor needs, there is given to subscribers the privilege of asking any questions about either values or general conditions, the Service maintaining a staff of experts to answer these personal questions.

10. *Babson Statistical Organization.*—The service of the Babson Statistical Organization of Wellesley Hills, Massachusetts, begins with a large desk sheet carrying an elaborate array of statistics. The drift of these data is skilfully summarized in graphic forms by means of record lines superimposed upon the

figures in light red ink. The subscriber to this service probably receives the most comprehensive collection of statistics available on the subject of investment.

A weekly Barometer Letter and Composite Plot is also supplied. In this letter the situation of the market is discussed. The accompanying graph involves a series of solid black areas comprising the spaces between the record line of a composite business barometer and an axial line which is calculated by the Organization as the line of the country's normal growth. These areas, now above and now below the axial line, are presented on the theory that a period of super-normal prosperity, estimated in terms of its length and intensity, tends to be offset by an equal period of sub-normal business or depression, likewise estimated in terms of its length and intensity. It is to be observed, however, that the direction of the line of growth is changed by the Organization from time to time, and that the areas referred to are equal only on the basis of the changes made in this line.

REVIEW

For what are the clearings of New York City banks useful, in contrast to the clearings outside of New York City?

When are too few failures a bad sign?

What characteristics do the failures of a boom period have?

What were the danger signs in the ratio of reserves to loans, for New York City banks, previous to the inauguration of the Federal Reserve Bank system?

How has the reserve situation been changed for national banks?

Trace gilt-edged bonds thru the four phases of a trade cycle, stating the characteristic positions and their relation to those of stock prices.

CHAPTER XVIII

MINING INVESTMENTS

1. *Shadow on a great industry.*—In the book of rules issued by Marshall Field and Company of Chicago, for the information and guidance of their employes, there is to be found the following paragraph:

> Any employe found to have advised another employe or a customer (without the consent of the house) to buy, invest in, or otherwise become interested in any stocks and bonds of mineral and oil mining ventures, to have become a stockholder in or an officer of such corporation, thereby involving the name of the employe as being with Marshall Field and Company, will be immediately discharged.

An eminent mining engineer, Mr. Francis C. Nicholas of New York City, has said:

> Because mining is so good, and so profitable, there are many who by deceiving seek gain unworthily; because righteousness is so good, and so desirable, there are many who by hypocrisy make false pretense; yet because of the hypocrites we do not turn from religious sentiments, and neither should we, because of the deceivers, condemn mining. The evils which have developed in mining investments are not because such investments are bad, but because they are so good that those who seek to gain by deception find in mining stocks a convenient medium for their operations. It is probable that greater loss follows the promiscuous use of capital in mining transactions than in any other form of investment, ex-

cepting only speculation on margin, tho such dealings should perhaps be classed as gambling, and given no consideration among investments. If margin speculation is not to be considered as having a place among investments, then mining shares are the most uncertain. Yet among all investments, not anywhere are such profits obtained as in successful mining.

These excerpts give an idea of the cloud which, in public opinion, hangs over one of the great subdivisions of industry. Honest mining is one thing; fraudulent promoting and ignorant speculation is something elese. Mark Twain called a mine "A hole in the ground owned by a 'liar,'" but John Hays Hammond[1] said a fairer definition would be "A hole in the ground sold by a lying promoter to a stupid investor."

Mining ventures involve all possible degrees of hazard. Bituminous coal mining is being carried on more and more by large corporations, and their securities in many instances have attained a reputable standing. Anthracite coal mining does not involve quite as much risk as that involved in drilling a well. It has been financed in the past by coal railroads whose securities are among the leaders of the speculative security market. Iron mining, especially since the discovery of the great bedded deposits of the Lake Superior region, has taken a standing only a little more hazardous than coal mining. Copper mining, as developed in the Superior and Butte districts, oc-

[1] Member of the Advisory Council of the Alexander Hamilton Institute.

cupied a position intermediate between metallic and non-metallic exploitation in risk, but since the utilization of the low-grade ores of the western porphyry companies, that standing has improved to a place but little different in hazard from quarrying. Furthermore, it should be noted that the risks of the copper industry are not so much risks of mining as they are uncertainties connected with the sale of the product on a fluctuating metal market. As we pass to gold and silver mining, especially those forms which involve the exploitation of vein deposits, we come into a field of enterprise where the operations may be designated as speculative, if carried on with expert talent and upon a large scale, and as gambling, when carried on by amateurs in the development of single properties.

2. *Reputation of a camp.*—Mining ventures are commonly grouped, and rated to a considerable extent, according to the reputation of the camps in which they are located. The rationale of this lies in the fact that the ore deposits of a district tend to possess common characteristics as to the forces which caused the deposit of the ore, as to the shape, pitch, volume and regularity or irregularity of the ore bodies, and the physical and chemical state of the metallic content of the ore. Mining prospects of similar nature may be judged to a certain extent by the same rules, and exploitation may be carried on by similar methods.

The history of a mining camp usually consists of

one or more rich strikes, the rapid acquisition of the best locations by local interests, or well organized mining capital guided by expert talent, and then the inrush of hundreds or thousands of persons, who take up unpromising or barren ground on the outskirts and set up an active traffic in selling these properties, which are often not even prospects, to the excited public, thru the old but never-failing device of selling stock in a company. For a time, the entire camp is judged by the reputation of the few rich early strikes. It is only much later, when the disastrous history of the later promotions can be comprehensively summarized, that the slight relation which the majority of the ventures had to true mining can be seen clearly.

The Rawhide, Nevada, camp had, in 1908, three proved properties, with no stock for sale, and about 25 companies advertising stock on the basis of unproved claims. The Oatman camp in Arizona has its values largely concentrated in the possession of four mines. A dozen others have opened ore of milling grade, 28 have begun work, and some 140 others are merely selling stock. The Tonopah boom of the camp of the same name in Ney County, Nevada, resulted in about 120 different companies of which in November, 1908, approximately a dozen stocks remained with a market. Of the others nothing was known. Most of them no longer had even a post-office address. Spindle Top, Texas, which came into public notice with a magnificent oil gusher, and which

produced some very prosperous companies, served very soon as the basis for about 1,000 corporate organizations. It is now the graveyard of 900 of them. At Cobalt, Ontario, silver was discovered in 1905. In the next few years, the provincial government of Ontario had records of 491 companies with a total capitalization of $472,326,000. In four years, however, only fifteen dividend payers were left and their total dividends for the year 1908 were $3,646,027.

3. *History of a promotion.*—The beginning of the history of a typical mine promotion, therefore, is a state of public confidence produced by the rumor of rich fields. This mental state the promoter is not slow to utilize. The physical basis of promotion is a claim. A claim is not necessarily a promising outcrop, altho it may be that. Its speculative significance may lie solely in its proximity to other valuable properties. There are few markets for economic goods so irregular and blind and unreliable as the western market for mining claims. The promising locations are usually discovered by wandering prospectors. These prospectors are practically never able to finance any work of development, and so a sale of all or a portion of a prospect takes place very quickly after discovery, provided there are any signs of value in it. The buyers may be divided into three classes: local men of means, who are more or less closely identified with the mining industry; the great development companies; and the class of promoters who organize stock-selling campaigns. This

third class is the least expert of the three, and it has the least money. It gets the culls.

The conservative purchaser of a prospect enters into a working bond with the owner, under the terms of which he is permitted to do a reasonable amount of development work before exercising his option to buy. The stock-selling promoter purchases outright, makes a point of his ownership of the claim, and admits no possibility of the prospect proving a disappointment. When such a promoter acquires a property, he organizes a company and sells the prospect to the company for a large block of stock. Evidence that promoters charge their companies a round price for the prospects sold to them is furnished by the optimistic manner in which they talk of them in their prospectuses. The promoter also enters into a contract with his company by which he is to market the remainder of its stock. His price for doing so usually absorbs the major part of the investor's money. How much of the stock sold represents real cash coming into the company's treasury, and property or services conservatively valued, the stockholder is not informed. Most mining companies do not publish reports. The application for the appointment of a receiver seems to be the stockholder's favorite way of finding out what is going on in his company. The western states, with the exception of a few which are now experimenting with "Blue Sky Laws," do not care to invite outside capital in by making their corporation laws protect investors.

When experienced capitalists undertake the development of a prospect they do so with real money, good credit and expert talent. The average mining promoter has none of these things. From an engineering point of view his operations in development are a match for the geology of his prospectus. He receives his money only thru the expensive process of advertising and personal salesmanship. The investor who buys stock in such an enterprise undertakes to help pay for a prospect at an unknown price. He is helping to furnish all the real cash going into actual development, to underwrite other expenses charged to operation, the nature of which he does not know and the amount of which he is not told. He is paying all the expenses of the stock-selling campaign by which he is caught, and by which the whole enterprise is kept moving. Among the risks of such an investment are, that the prospect contains ore in paying quantity, that the operative force of the company has the skill to develop it so as to create a margin of profit above operating expenses, that the promoters are honest, and that no legal complication or business depression will halt the stock-selling campaign before enough shares are sold to develop the property into a mine. The prospect of success is very small. It is this type of project presented to the public as "mining," which gives a bad name to a great and legitimate industry.

4. *Protection.*—Reasonable legislation is needed as a primary basis for protection to the investor. As

Mr. John Hays Hammond says, "There should be some drastic legislation on flotation of mining companies to compel them to publish before flotation, reports of engineers; to state the price at which properties were acquired; amount of the promoter's commission, etc., also to compel full monthly and annual reports on financial status, ore reserves, conditions of the lowest developments, etc."

Protection at the present time consists in the use of the services of certain types of professional men of adequate scientific (and usually technical school) training. These men are the economic geologists, the mining engineers and the metallurgists. They adhere to definite professional standards and are animated by a professional pride.

5. *Professional services.*—The prospective investor is entitled to expect the benefit of the services of these men. They should be employed by a mining company to report upon its position and prospects. A proper examination includes an assay plan, which consists of accurate large-scale maps of ore bodies, with the quantities and the assays of each type of ore carefully calculated on the basis of drill tests and surveying measurements. A detailed estimate of the cost of extraction should be made; and, in addition, there should be a discussion of the economic geology of probable and possible ore, a statement of title and an assurance of the safety of operation with reference to the United States law of the apex.[1]

[1] The law of the apex is peculiar to the United States and it does not

The examination of a mining proposition may be grouped under four heads: 1, commercial conditions; 2, geological conditions; 3, metallurgical conditions; 4, financial conditions.

6. *Commercial conditions.*—In projects involving quarrying and coal mining, where the extent of exploitable deposits in the country is very great, commercial conditions will exert an important influence. They may be studied by starting with the established local price of the commodity to be produced, and working back thru a calculation of operating expenses to the margin of profit per unit which may be expected. In the case of mining for the precious metals, where the variation in richness of deposit is extreme, commercial conditions will be studied chiefly with regard to their influence upon operating expenses. The margin above operating expenses will depend more upon the richness of the deposit than upon the market prices. Copper mining is not clearly within either of these classes.

All mineral deposits should properly be valued as

apply to mines located elsewhere. Its effect is to give the discoverer of a vein the right to continue operating it to its entire length, so long as the vein continues to run between the indefinite prolongation of the lines of the original claim. For instance, a vein is located running due north and south. A claim is staked out, but it is found that the vein continues to the southward beyond the bounds of the claim. The owner of the claim may keep on operating the vein even tho he has to operate under adjacent lands, so long as the vein runs due south in line with the original claim. If it should veer off in some other direction, however, the right of the original owner to operate it would terminate at the point where it passed out of the boundaries so indefinitely prolonged. Under this law the operator of the vein may recover from another attempting to operate it in line with the extent of the claim.

stumpage rights are valued by the United States Forestry Service. This is done by fixing a fair local market price for the product, constructing a fair and probable cost of exploitation, adding to this, interest on the capital used and allowances for contingencies, adding also reasonable profits for the operator, and then taking the present worths of the extra annual profits which the calculations indicate as probable during the period of exploitation. The market value of the stock of a mining project mirrors little of such calculations. It shows chiefly what people in general think, or what the enterprise might be sold out for, if a long and involved stock-marketing campaign were carried thru to successful completion.

7. *Geological conditions.*—Under this head such matters are included as the chemical form in which the metal exists, the richness of the ore, the zone of secondary enrichment, the change of the nature of the ore with depth, the geology of the region, the form of the deposit, the experience of similar mines in the region as to irregularity, permanence, etc., and the quantity of the ore body. Base metal propositions are usually simpler and safer than those involving the precious metals. Bedded deposits and disseminated deposits are more easily estimated than vein deposits. The richer the ore the greater the risk, for high values are usually found only in small quantities. The most promising projects are those involving large quantities of low-grade ore. With them exploitation assumes a character similar to that of a manufacturing

industry using a mineral raw material. A general rule is that great mines are usually great from the start. Few mines which are poor at the start amount to much later on, for values generally decrease with depth.

If development work has been carried on, and a property is presented as a mine and not as a prospect, the investor is entitled to an estimate of the ore bodies. In good practice this estimate falls into three parts: ore in sight, probable ore and possible ore. "Ore in sight" is so called when it is indicated by workings which lay bare two, three or four sides of it in the earth. The value of the calculation is in direct ratio to the number of sides exposed, and the size of the blocks in which the workings divide the ore. It is of less value as the ore body shows a tendency to make inclusions, to pinch out or to be displaced at fault lines. A fault line is a dislocation caused by the slipping of rock masses along a plane of fracture. "Probable ore" is the estimate of ore likely to be found for a limited distance beyond the limits of ore in sight on all four sides, and below. "Possible ore" is a calculation based on general indications of other ore within the property limits.

It is quite possible for a company to have reserves which are too large in proportion to the capacity of its works. The proportion which is correct does not depend upon tons but upon prices paid for the ore body or the price which might be realized by the sale of it, and so the interest charge which has to be car-

ried. To acquire reserves to safeguard the distant future sometimes means that the force of compound discount is not understood. It means to run the risk that a change will take place in the arts, or that new deposits will be found which will depress prices. All gold reserves have been greatly decreased in value by the discovery of the Witwatersrand. All silver reserves were lessened in value by the failure of the 16 to 1 agitation, and the improvement of the process of parting silver and lead. All Bessemer iron ore reserves were influenced by the introduction of the basic process. All bee-hive coal is now being influenced by the progress of the by-product coking process.

8. *Metallurgical and engineering conditions.*—The engineer and the metallurgist preside over the concentrating and reduction works. No permanent milling or reduction works should be constructed until a prospect has been developed and a considerable body of ore has been blocked out so as to show the duration of the deposit, the scale on which works can be operated, and the nature of the process to be used. Particular attention should be given to the question of whether the process proposed is suitable for the ore lying below the region of surface leaching and oxidation. Mineral deposits are subject to the action of percolating water, and chemical changes brought about in this way may cause definite changes in the nature of the ore itself. A deposit of copper may be found that will require a certain type of plant to handle. Below the limit of oxidizing agencies the

deposit may have an entirely different chemical composition. When this copper is reached it may be found that it will require different treatment. Unless this has been foreseen a valuable plant may be found to be entirely useless. It is a common practice for amateur or dishonest promoters to rush the erection of a mill in order to make a showing. The dividing line between a prospect and a mine is the development of the ore body to such a point that it is possible to predict that ore exists in sufficient quantity to repay with profits the capital invested in the necessary mining operations and reduction plant. This line is not passed by the construction of premature headworks.

9. *Financial conditions.*—Mines are properties of wasting assets. Their dividends are primarily sinking fund payments made to the stockholders to amortize the original investment. Only the return over and above such payments is profit. Inasmuch as the amount of the annual sinking fund required to amortize a sum cannot be stated unless the number of periods is given, a clear idea of the profit element in mining dividends cannot be obtained until the extent of the ore bodies has been determined. These conditions show why mining shares should yield a larger annual return than businesses whose assets are not wasting. They show also the folly of buying mining stock at a price which capitalizes the net earnings at a low rate of interest.

It has been suggested that mining companies should establish sinking funds to amortize their capital.

However reasonable it may seem and however correct it may be in theory, yet in view of the proved incapacity of investors to establish such sinking funds individually, the existing practice of mining finance pays no attention to it. The average mining directorate would be a poor body to intrust with the investment of a sinking fund.

It is not correct to value mining stocks on the basis of the cost of the property. This point is explained in Mr. J. R. Finlay's famous report on the mines of Michigan, in the following words.

The value of a mine depends wholly upon the ore; that is, the equipment of a mine has no value except as applied to the ore. It is therefore useless to appraise mining plants as if they were in themselves an asset. It is true that a mine cannot be worked without equipment. A mine fully equipped is more valuable than a mere ore body without equipment, but this fact is fully taken into consideration in all appraisals. The point to be especially borne in mind is that mining equipment in itself is of no value; when the ore plays out the equipment is mere junk, no matter how costly it may have been in the first place; and this junk is so likely to be unsalable that it is fully as likely to entail expense for watchmen and insurance as it is to yield any salvage. This fact may be surprising to many people, but a little consideration will show that it is true. The equipment of a mine consists very largely of structures that cannot by any possibility be moved. The shafts and other excavations are a part of the equipment. The buildings and machinery may occasionally yield some salvage but necessarily a small amount. It must be borne in mind that a large part of the expense of any installation of machinery consists of labor and materials for foundations, housing and erection. This is wholly lost when it is proposed to move

the machine. Furthermore, the value of a machine depreciates rapidly on account of mere age.

Neither can properties be valued from the market value of their securities, for the price of mining shares is fixed by the state of expectation of the owners, by the prospect of selling them to others at a profit, by the state of the money market, by tips and rumors, and the operations of stock pools, and by a variety of matters which have nothing to do with the profit which can be made out of an ore body.

The worth of a mining share to the purchaser is the present worth of the income it assures. But since it costs money to develop a mine, there is an invested sum to be amortized, as well as an income to be bought. We may define the value of a share, then, as that sum upon which the assured annual dividend will yield the desired rate of interest, after a sinking fund payment sufficient to amortize the investment in the assumed period has been deducted.

If we assume a stock with a yield of $20 per annum, held to be safe for ten years, and assume further that a sinking fund can be established at 5 per cent compounded semi-annually, we can say what price must be paid for the stock to preserve the investor's capital intact and yield him interest at the rate of 10 per cent per annum. The dividend must equal the interest and the proper sinking fund on the amount bid. From sinking-fund tables, we know that the sum required to redeem $100 in 20 periods at 2½ per cent is $.03915, hence $.0783 per annum. Let us

call the bid X. The income wanted then is 10 per cent of X for interest and $.0783 for each $100 of X or 7.83 per cent of X for sinking fund, making a total of 17.83 per cent of X.

$$17.83 \text{ per cent of } X = \$20.00$$
$$1 \text{ per cent of } X = \frac{\$20}{17.83} = \$1.1216$$

If 1 per cent of X = $1.1216, 100 per cent of X = 1.1216 × 100 = $112.16. The proper bid for the stock is then $112.16.

The proof by substitution is as follows:

Income = ...	$20.00
Sinking fund = $.0783 × 112.16 = ...	8.782
Net income...........................	$11.218

$11.218 is approximately 10 per cent of $112.16.

It is reasonable to modify such conclusions, arrived at on the basis of the safe dividend period, by an addition to represent the value of the chance that new ore bodies will be revealed by the progress of working.

10. *Leave prospects alone.*—Experienced mining engineers unite in urging small investors not to consider prospects which are not yet mines. The United States Smelting and Refining Company has a department of structural geology which examines all properties offered to it. The results of the work of that bureau in certain recent years is as follows:

Year	Mines Offered	Partly Examined	Measured and Tested	Bought
1910	684	124	46	2
1911	921	144	28	1
1912	694	121	36	4
1913	614	100	24	3
Total	2913	489	134	10

Of all the properties covered by these very constant ratios, only 17 per cent survived the first glance; only 5 per cent stood a preliminary examination, and after measuring and sampling, but one-third of 1 per cent were deemed worth buying.

If so few properties have merit in the eyes of experts, what chance has the investor to buy into one thru the ordinary promoter? The only proper method for the investor, who has some other business or profession to look after and who wishes to engage in mine promoting, is to invest in the shares of development companies large enough to employ the highest grade of talent, and to average the risks of individual ventures.

11. *Signs of danger.*—Among the signs of danger to be found in the claims of prospectuses and stock salesmen, the following may be mentioned:

(a) The mine has now come into excellent ore, the previous poor record being due to bad management—the situation for such claims is often created in the mining of irregular ore bodies where, upon the extension of the working face into a rich spot, operations are suspended in that gallery to hold the showing, and claims are made, with measurements and,

perhaps, with the offer to take prospective investors into the mine.

(b) Very high assay values reported—the higher these values the less the probability of a permanent proposition. Rich ores are almost always very small in amount and very irregular in distribution. They are, therefore, an unsafe basis for calculations.

(c) Increasing size of the ore body with depth.—Such a conclusion is likely to characterize the early stages of development, before average dimensions are known, and when local enlargements are mistaken for general tendencies.

(d) Increasing richness with depth.—Important if true. It contradicts general experience, which is that ore bodies become more lean and refractory with depth.

(e) Abundant ore in sight.—It is well to know in what sense the much abused phrase "ore in sight" is used. Reputable mining engineers attach a definite meaning to the expression.

(f) Proximity to rich properties.—This has been touched upon in the section on the Reputation of a Camp, page 292.

(g) A famous engineer quoted by a promoter without standing—such quotations are apt to consist of a few carefully chosen excerpts of a report which either conveys an entirely different conclusion from that sought to be established, or which was prepared for an entirely different purpose. Judicious

bits are sometimes picked out of United States Geological Survey reports, which are intended only to describe the general geological features of a region. Mr. Rossiter W. Raymond, an engineer of high standing, was once quoted in a questionable prospectus. Upon being interrogated, Mr. Raymond replied that thirty years before he had made a favorable report on the property to the government, and that by referring to mining reports he found that more valuable ore had been taken out of the mine than he had foreshadowed in his report. As to whether there was now any gold left he had no knowledge.

12. *Test questions.*—Many lists of test questions have been prepared by mining engineers at different times, to bring out the matters upon which an investor should receive satisfactory information before risking his money. The most authoritative list is probably that prepared by the Fraud Investigating Committee of the American Mining Congress of 1907. It is as follows:

Presuming that the prospective investor is anxious to acquire definite information regarding a mining company and its property, the committee urges that, as a preliminary step, he secure precise statements from the promoter in answer to the following questions. Inasmuch as the misuse of the mails is a felony, be sure to preserve all replies, together with the stamped envelopes containing them:

1. Company organization, where and when incorporated?
2. Capital stock, how issued and apportioned?
3. What steps have been, or will be taken to raise funds for the development or equipment of the property?
4. Is any of the stock pooled?

5. How was the property acquired by this company?

6. Are there any debts against the company?

7. Are there any encumbrances against the property?

8. Location of the property and total acreage? Nature of the titles?

9. Nature and extent of developments and equipment, and how much has been expended in this work?

10. How much treasury stock has been sold and at what price?

11. How much cash is in the treasury?

12. Has the property ever produced and if so how much has it produced under the present ownership?

13. Has the property ever been examined by a competent and honest mining engineer? Give his name and address, and send copy of his report.

14. Is the property working at the present time? If so, how many men does it employ, exclusive of stock solicitors?

15. Has a comprehensive financial report of the operations to date been issued? If so, send a copy. If not, count the writer out.

REVIEW

What is the typical history of a mining camp from start to finish, from the point of view of mine promotion?

Assuming that a mining stock will yield $10 per year for 12 years, after which time the mine will be worked out, and that the investor wishes to net 10 per cent interest on his capital invested, what could he bid for the stock? A sinking fund to amortize the investment can be established at 5 per cent, and will require $.06283 per annum for each $1.00 invested.

What percentage of prospects result in profitable mines?

What is the proper response of an investor to the statement of a mining prospectus that the proposition shows very high assay values, and that the ore shows increasing richness with depth?

CHAPTER XIX

THE FAIRY LAND OF FINANCE[1]

1. *Signs of fraud.*—A great change has taken place in the investment market during the past twenty years. Formerly, small investors put their money in houses and lots, farm lands, building and loan associations and local manufacturing concerns. The only distant corporations to which they intrusted their funds were the life insurance companies and the railways.

At present, the spread of the practice of incorporating business enterprises has acquainted every one with the method of organizing a corporation, and has multiplied by many times the number of shares that are offered to the investing public. The consolidation of small local enterprises into larger corporations, frequently with exchange of shares, has made local investors the holders of the paper of distant corporations, almost without their volition. Many investors feel that they must look away from home to find profitable fields. The news agencies now report daily the doings of great establishments, and spread abroad the story of occasional great profits, by which

[1]The title of this chapter is borrowed from the heading of a department of *The Financial World* of New York City, a magazine which has long been an aggressive enemy of all that is fraudulent in investment enterprise.

the ambitious are made restless. These and many other influences help to account for the fact that the small investor has launched out into deep waters, and now, without fear, and without much investigation, trusts his capital to unknown persons for strange enterprises in distant places. Shares can now be sold, and money can be raised, by advertising and mail order service.

The stage, the setting and the audience for the fraudulent promoter to utilize in playing his rôle has thus been created. The opportunity has been seized. According to the post-office authorities, the schemes closed up by the Federal government in 1912 had obtained $77,000,000 from the public in exchange for shares worth, on the average, less than one-tenth of one cent on the dollar, and commanding practically no income. *The Financial World* of New York City has estimated that known schemes operating in that city in the same year had defrauded the public out of $1,000,000,000 in seven years. Someone has said, "Lots of men are slaves to money; but then, the world is full of emancipators."

The permissive conditions which account for the immunity which fraudulent promoters enjoy, have been summarized by President George B. Caldwell before the First Annual Convention of the Investment Bankers' Association of America, in 1912:

Many factors have contributed their share to making fraudulent promotion so general and so profitable as to become almost a national disgrace. Among them are the com-

plication and diversity of laws of each of our forty-nine commonwealths; the laxity of our prosecuting authorities; the difficulty of proving intent to defraud under the Federal statutes; the absence of any Federal bureau of registration, or responsibility of state officials after a charter is issued, providing some supervision over security issues; and, the acceptance by many newspapers and some magazines of fraudulent and misleading advertisements.

In view of this situation, let us consider some of the danger signals which the individual investor may find for himself, and which may enable him to safeguard his capital to a certain extent. These signs we may call the signs of fraud. It is not meant to argue that every enterprise showing any of them is fraudulent. They are sometimes signs of ignorance, of undue and undiscriminating enthusiasm, signs, at least, that the promoter is departing seriously from the usages of the best class of financial houses in presenting projects to prospective subscribers. In most cases, the projects discussed in this chapter are connected with types of industrial enterprise which never ought to be presented to small investors of the country, and which no first-class financial house would think of offering to the general public. Where these signs occur collectively, they are emphatically the signs of fraudulent intent.

It is encouraging that the better type of advertising mediums refuse advertisements of investments of the gold-brick type. Reputable brokers also refuse to deal in shady investments. The gullible public, unless protected against itself, will continue to buy them.

2. *High-sounding names.*—The annals of fraud are decorated with magnificent names and resounding combinations of words, such as the Northwestern Fiscal Agency, The National Trust Company, The Redeemable Investment Company and The Sterling Debenture Corporation. Mr. C. M. Keys in the *World's Work* of March, 1911, has made some interesting comment on their titles. He says:

> Into their names they like to weave the old and splendid words that once belonged to the vocabulary of legitimate investment, of sound finance, of public trust and confidence. Half a dozen of them use in their titles the words "Bond," "Fidelity," "Trust," "Sterling," "Funding," "Debenture," "Fiduciary," "Security"—what splendid sounding words they all are! Best of them all is "Savings," and it has been used most liberally, in spite of the law's intent.
>
> For many years past, it has been part of my business to look carefully into the character of various investment companies that have offered securities to the public. The first result of this long practice is that when a new concern comes to light that has in its title any of these glorious old words, suspicion immediately takes command of my mind. I would sooner trust, off-hand, the "Red Hawk Stock-Selling Syndicate" than the "Fidelity Funding and Savings Society." It is ten to one that the latter is a thick disguise for some notorious swindler who is afraid to put his name on paper.

3. *Every prospect pleases.*—Most fraudulent prospectuses picture a situation too good to be true. In their anxiety to play their game fast—for it has its dangers—the promoters can tolerate no sober discussion of drawbacks, no point which may lose them a single possible subscriber. Many have no reputation to safeguard by giving the subscriber advance warn-

ing of possible future difficulties. Every point must be a favorable one, and it must contribute its share in arousing the victim to enthusiasm.

In a letter of October 5, 1908, addressed "To the Board of Directors of Temagami-Cobalt Mines Limited," but nevertheless printed and widely distributed, the writer said: "In addressing you, I shall speak with more freedom and positiveness than would be proper were I talking with a subscriber to our stock." He then worked up his case, little by little, to extravagant phrases, such as, "magnificent project," "silver in practically unlimited quantities," "only one of innumerable veins on our property," "will prove richly remunerative for at least 50 years," "in a few months more I am confident that none of our stock can be bought for any price."

In similar letters, such phrases as "mighty fat profit," "greatest increase in percentage of sales ever known," and so forth abound.

In contrast to this flamboyant literature, in all the official promotion literature of the United States Steel Corporation only one laudatory phrase could be found. It was as follows: "We believe that the consummation of the proposed arrangement will result in decreased expenses, in lower and more stable cost of manufacture, and, without advance of prices of manufactured products, in larger net earnings applicable to dividends."

It is well to observe exactly what a prospectus says. All statements made on the authority of others,

as of "an expert," or of "a conservative and successful business man," may be ignored. Likewise, all statements of mere belief or expectation, such as "we can safely expect nearly 100 per cent in two years' time" may be passed over as having no binding character. A man is legally entitled to believe whatever he pleases, and this fact the promoter knows very well.

4. *A very small amount of stock.*—The Sibyl of Cumea brought the proud Tarquin to terms when she offered her books of prophecy for sale, and finding her first terms refused, burned the books, one by one, before him. An opportunity seems most attractive to us just as it appears about to be withdrawn. A letter from the Sterling Debenture Corporation dated September 14, 1908, regarding the stock of the Telepost Company, said:

> Wise investors are securing stock in the enterprise now. The entire apportionments of Series A stock for several of the States have already been subscribed, but residents of your State can still, at this writing, secure shares in this first series.

But in January, 1910, if "Series A" stock was all gone, there was "Series B" on hand, as a paragraph from a letter of that date shows.

> As noted on the inclosed post-card, very few shares of Series B stock of the Telepost Company remain for allotment in Michigan. Many of the States have already taken up their entire apportionment. By sending in your application at once you may still secure the advantage of receiving the two convertibles which go to subscribers of Series B.

5. *Telegraph your order at once.*—Twin sister to disappearing opportunity is the idea that opportunity can be seized only by prompt action. The usual cheap prospectus argues thus: this is a good thing; the stock will be over-subscribed; you must send in your order quickly if you would be accommodated. The emphasis put upon haste is almost invariably overdone. This alone shows that no great rush is expected, and that the true point in the mind of the promoter is that the investor must be induced to act quickly, without investigation, and without mature consideration or else he will never patronize the project at all. Lord Burleigh (who was William Cecil) advised his son, Robert Cecil, in choosing a wife: "If thy estate be good, match near home and at leisure; if weak, far off and quickly." This advice the promoter has taken to heart. When his project is weak, he applies for the money of investors "far off and quickly."

The following is an extract from a letter issued in booming a get-rich-quick stock:

> We have made it as easy as possible for you to grasp this opportunity at the time when you can make the *greatest* profits. You have no time to lose. If you want to become a partner in this growing concern, share in its prosperity, and thereby make your money earn the highest returns, under conditions of absolute safety, *send in your order now.* The price will advance any day. It may tomorrow. One day's delay may lose you hundreds of dollars. Meet your opportunity face to face. Don't turn your back. Fill out the inclosed order blank for all you can carry. *Do it now.*

6. *An immediate rise in price.*—Along the same line of enhancing the attractiveness of the opportunity without necessitating any consideration of the conditions which affect earnings, is the device of warning the investor that the price of the stock is to be raised. The explanation is never made that the price which is to be raised is merely the issue price of the promoter, and not the outside or open market price. As a matter of fact, there is very rarely an independent market price.

The following letter is typical of those urging investors to buy stock because the price may advance at any time:

> You received the preliminary prospectus that I sent you last week, didn't you? If you haven't you had better get one quick, for it tells all about the first public offering of 50,000 shares of the —— stock at thirty-seven and one-half (37½¢) cents per share. The minute the sale starts no stock can be had at a cent under 37½¢ per share unless some of the pre-public offering stockholders decide to sell a portion of their holdings thru cut rate brokers and reap a profit that will let them carry —— stock on velvet.

7. *Profits of other business.*—It is not a good sign when a prospectus enlarges upon the profits which have been made in businesses which are in no way related to the one under consideration. One firm of promoters in one of their letters detailed the history of the United Shoe Machinery Company. In a printed circular there appeared the story of the Pullman Company. In another letter the story of a share

of the Singer Sewing Machine Company is given thus:

There was a woman in a small town in Ohio, who had just lost her husband. Prior to his sickness, her husband was a man who believed *in new enterprises*, and from time to time he had speculated in a small way in creative enterprises, principally mining stocks.

At his death, after a rather long illness he left his wife destitute and considerably in debt. Among the creditors was a grocer who had given them credit to the extent of a hundred odd dollars.

The widow being an honest woman wanted to pay her debts and before leaving for her eastern home in Massachusetts, she tendered the grocer some supposedly valueless stock certificates, among which was *one share* of Singer Sewing Machine stock.

The grocer accepted the certificates as full payment of his bill, realizing that he probably would receive nothing, otherwise. A few days later the grocer called up a broker, with whom he had transacted some business and found that *one share* of Singer Sewing Machine stock was the only one that had a market value, for which his broker bid $26.

The grocer logically said, "If this stock is worth $26 to someone else, it is worth that much to me!" He had the certificate transferred to his name and placed it among his valuable papers.

A little more than a year later, he received a dividend check for $6 and a stock dividend of 100 per cent or an additional share of stock. This opened the grocer's eyes and he again called on his broker in order to inquire the price of the stock, with the intention of purchasing a fair sized block, for he reasoned that a corporation that could pay 6 per cent and 100 per cent in stock should be an attractive investment.

When his broker told him that the stock was firm around $110 per share he at once figured that the stock was too high and again passed the opportunity of laying the foun-

dation of extreme wealth, for in a year he again received a 100 per cent stock and an 8 per cent cash dividend.

He again inquired the price of the stock only to find that the $110 stock of the year before was selling for $165 which he had rejected as out of the question on account of its high price.

These stock and cash dividends continued until he died four years ago, and his *one share* of stock had increased to *sixty-four* shares which were sold at $300 per share to settle up his estate, netting his heirs $19,200 which did not include the cash dividends received during the grocer's life.

What is the argument of all this? It is that the Singer Sewing Machine Company was once a great opportunity; the —— Company is another such enterprise; seize the opportunity.

However, there is a deeper play of policy than this. It has to do with the reader's sense of value. If a reader will feed his mind sufficiently with the details of stories of wealth quickly got—of 100 per cent dividends and of fortunes from single shares—he will become dissatisfied with the rate of interest on savings bank deposits, bonds and conservative investments. Then he will find nothing which will satisfy his fever to be rich quickly but the alluring pictures drawn by the artists of the fairy land of finance. His value sense will be destroyed. He will no longer be able to see things normally and rationally as they are.

8. *Unrelated matters.*—Similarly, we may say that it is a bad sign when a prospectus contains a discussion of any subject which is not strictly pertinent to the enterprise in hand. In a published letter relating

to the stock and prospects of the Temagami-Cobalt Mines Company, it was said:

The diabase peninsula, which our property includes, is a tongue of land extending nearly North and South into the deep waters of White Bear Lake, three miles by canoe from Temagami Station on the Grand Trunk Railway. It is upwards of two and one-half miles in length, and averages half a mile in width. The land rises from the water line on the east and west sides, to a height of about two hundred feet at most, with irregularities and depressions; there being three main acclivities, including that at the extreme northern point, where the face of the rock plunges boldly into the lake. On the eastern and also on the southern sides, there are low lands, which in wet weather are swampy, with small streams percolating thru them.

The whole peninsula is densely wooded with timber which has never been cut, tho it may perhaps have been ravaged by fires from time to time in the past; there is little soil, except such as is formed by the decay of trees which have fallen during the ages. Beneath this decay there are rough boulders of all sizes, and surfaces of volcanic and sedimentary rock. The trees are mostly tamarac, birch and poplar, growing to a height of 100 feet and more, with foliage mostly at their tops. There is an undergrowth of bushes, and walking is difficult on all parts of the peninsula. The shores are composed of broken boulders or masses of sedimentary rock or diabase, overhung by trees which grow down to the water's edge.

The description then passes to the geology of the region, and to the ore veins which are declared to be like those at Cobalt. Presently the condition of a nearby property is described as follows:

Now on the Crown Reserve mine, for example, which I carefully examined, a section of the ore vein has been developed and measured up, two hundred feet in length, by

one hundred and fifty feet in average depth, and about eighteen inches wide. A shaft has been sunk at both ends of this section, and the ore has been found to run about eight thousand dollars to the ton, or otherwise stated, its value is seventy-five per cent pure silver. This means that the section of ore thus defined contains fifteen million dollars worth of pure silver.

When you consider that the main vein on our property thus far exposed—the West contact vein—is three miles in length, and it is in all respects identical in character and conditions with this Crown Reserve vein, you can appreciate the project which lies before us.

Now what was the object of this preliminary description of the lake, and the bold headlands, and the swampy lowlands—of the undergrowth, and the forest trees with foliage at their tops, and finally of the Crown Reserve mine? It served the purpose of getting the reader acquainted with the writer and the property described. It produced a feeling of friendliness and confidence. It gave the writer a chance to supply exact details on entirely neutral matters, and accustom his readers to accept them without question. Accordingly, when the great central statement, about which the whole thing was built, was brought out, the reader would be disposed to gulp it down indiscriminately along with the rest. The idea was that this central fact should not be weighed by itself, but should be assimilated as a portion of a system of facts, and viewed as a part of a picture, so that, by the weight of the apparent veracity of the matters which were neutral and immaterial, the whole should finally be accepted as a fact!

9. *Ridicule of bank rates of interest.*—It is contemptible for promoters, who address themselves to persons of small means, to cast ridicule upon the rates of interest which business experience has found it is possible to pay upon deposits which are subject to check or to withdrawal on brief notice.

A promoting company, some of whose officers are now under indictment, when offering one of its projects, said:

> J. P. Morgan is not satisfied with bank interest, he buys bank stock, some of which earns 100 and 150 per cent in dividends. But if you were able to reach the ear of Mr. Morgan and ask him about sane investments, he would say, "Keep inside the 6 per cent limit."
>
> Why? Because he takes the high stand that you are not capable of making your money earn all it can earn. This insult to a man's intelligence is thrown in his face every day by bankers.

The following statement from the prospectus of a mining company will come as a surprise to bankers:

> The banker probably makes several thousand per cent from the use of your $100. Is it a square deal? The banker and capitalists will say it is "conservative." But is it fair? Is it strictly honest to take $100 from a man who does not meet many investment opportunities, and give him nothing to show for it except—a bank book, not even a receipt?

10. *Pointing to the rascals.*—It is a trick of policy to appear to agree with a radical person in the condemnation of some institution or policy. As it is well known that many honest persons hold in horror the

operations of the speculative market, we find promoters sometimes denouncing speculation, emphasizing the unreliability of stock brokers and dealers, and heaping abuse upon poor old Wall Street. If one's own reputation is none too secure, it is supposed to be an act of shrewdness to assume the appearance of virtue by condemning evil with even greater vehemence than the virtuous.

Playing between the point of economy and the point of superior virtue is illustrated in the following:

> We are anxious to commence shipping ore within ninety days, and for this purpose we want to sell some treasury stock, but I seriously object to deal thru brokers. I know that I am going to make my fortune from my investment in this enterprise; I have put into it all I had. I told my associates that I was satisfied there were enough people who knew me, or knew of me, who would believe in my representations, and would invest in the enterprise if they knew I was connected with it. Naturally, therefore, I objected to the paying of exorbitant commissions to brokers, and insisted that the company should derive the benefit of every dollar received by it.
>
> Aside from this, brokers, in order to market their securities, quite often exaggerate statements. In the past forty years I have established a reputation which I am anxious to maintain and I want to be sure therefore that the company's literature is under its own control, so that no statements will be made that a self-respecting man could not stand for.

11. *The inside offer.*—Bacon said in his "Advancement of Learning," "The Italian thinketh himself upon the point to be bought and sold, when he is better

used than he was wont to be without manifest cause." If the average American prospective investor were as sharp as the Italian referred to, the bald and bungling offers of special inside prices found in questionable prospectuses, offers made to you personally, to win your lifelong patronage and friendship or to test your good judgment in investment matters, would be merely funny. After looking upon the glowing picture of inside opportunities offered, one may well ask himself, "Why are not the promoters keeping this good thing for themselves? Why have local capitalists in the neighborhood where it is growing ignored it? Who am I, that I should be specially selected?"

"When I let you in," say the promoters of a mining company, "on the inside at the absolutely ground-floor price of 10 cents a share, I think I am demonstrating that I am favoring you to a greater extent than you will appreciate until you look into this proposition fully."

The promoters of one concern write:

> You are one of the few to whom I have shown the specifications for the United States Letters Patent. You are one of the few that I am favoring with the opportunity to subscribe for a block of this stock at the inside price of five cents per share. I have shown the machine itself to a number of my friends and have allowed them to subscribe at the five cent price, but I wanted to test your judgment on the undertaking, and that is why I have favored you in presenting the proposition to you at this time and giving you the opportunity to come in at the five cent price.

12. *Testimony of the amateur.*—Worthless stocks are often sold by mail order, on the recommendation of well-known people who are deluded into giving indorsements.

Much more amusing is the commonplace device of walking a committee of innocent stockholders thru a mine or a partially completed factory, and then obtaining from them letters of indorsement. The most expert efficiency engineers and cost accountants would not be drawn into making any sort of comprehensive statement after such a cursory inspection; but a group of innocent grocers and school teachers and farmers will follow a carefully prearranged path thru a plant of a business of which they know nothing, and will then draw up resounding phrases of indorsement from the plenitude of their ignorance. In 1908, the Sterling Debenture Corporation was exploiting the Oxford Linen Mills. A selectman, a postmaster, a merchant, a contractor, a jeweler and a Chief of the Fire Department of North Brookfield, Massachusetts, were passed thru the mills and these men thereupon wrote themselves down as "taking pleasure" in indorsing "a meritorious enterprise," and in marveling at the "really remarkable results." In their ignorance they presumed to pass judgment on a project which claimed to be revolutionizing the world's linen industry. They doubtless contributed in causing many innocent investors to lose their savings. They did not prevent the Federal District Court of New York from sentencing the promoters of the enterprise.

13. *Guaranteeing one's own securities.*—Books on finance say, "Of course no one will be caught by the project of a company attempting to guarantee the dividends on its own securities." Unfortunately this much cannot be assumed.

The following is a characteristic appeal:

> We have selected your name with a few others, from among our many thousands of clients, as one who would be interested in a guaranteed, interest paying, safe investment; we refer to the stock of the company, now closely held by a few individuals who have profited very largely from their holdings.
>
> Each share of stock will be sold under a written *guarantee* to pay ten per cent interest per annum on the amount invested, interest payable quarterly, and if the stock earns more than ten per cent, you will receive pro rata whatever the stock earns in excess of that amount, as during the fiscal year of 1907, the business earned 25 per cent on the outstanding stock.

More recently, a tire and rubber company headed an advertisement:

Invest		Invest
$10	80 per cent Guaranteed	$10

In fine print, well down in the advertisement, however, there occurs the following statement:

> The fact that this Company is now earning at the rate of 20 per cent on its entire capitalization, with less than one-third (1/3) issued, is a positive guarantee of your 80 per cent and proof of the still larger earnings you will receive when their production facilities have been increased.

A letter addressed to this firm, asking if this inference was the sole guarantee, brought the reply,

We really expect to be able to earn 80 per cent, and you can see what this will mean, if we do. However, we will guarantee you that you will receive an amount equal to at least 6 per cent on your investment per year.

No individual responsibility was hazarded in this offer, however, for the letter bore a rubber-stamped company signature.

14. *Blue Sky legislation.*—The long and miserable history of fraudulent promotion is responsible for the stringency of the Blue Sky legislation which swept the country in the years 1911, 1912, 1913 and 1914. In those years, twenty-eight states passed statutes so drastic as to hamper considerably the operations of the conservative and legitimate bond and stock selling houses. In several states, the laws have been declared unconstitutional by state courts, but in those states litigation has either been carried to the United States Supreme Court, or amendatory acts have been passed.

The general purpose of these laws is to require a license from every one who sells securities within the state. A commission is established to examine all applications for licenses and to make a final decision as to the advisability of issuing them. The underlying idea of the legislative bodies appears to be the supervision of the activities of concerns selling securities, as banks and insurance companies are supervised.

The opposing theory as to the proper manner of combating investment frauds, as presented by the Investment Bankers' Association of America, is that

full publicity concerning the nature of the projects offered should be secured by legal agencies, leaving freedom to make his own decisions to the individual investor.

REVIEW

What are the permissive and actuating causes which account for the prevalence of investment frauds in the United States?

What is the probable intent of a promoter who writes that a very small amount of stock, only, is to be had?

What does it signify if emphasis is put upon haste?

What is the investor to understand, if the promoter announces that the price of the stock will advance after a given (very near) date?

What is the point of stories of great profits made from investments in other companies?

CHAPTER XX

GENERAL RULES

Let us set down, in conclusion, a few rules which will serve to summarize the chapters which have gone before, and to suggest starting points for further studies on the part of the reader. These rules are not offered as final and complete pieces of armor, guaranteed to give complete protection against all the hazards of financial fortune. They are rather a means of encouraging the reader to form the habit of summarizing his reading and observation in practical fashion, and of driving his thinking thru to conclusions which are clear and powerful enough in his own mind to influence his conduct.

1. *Thoroness.*—A chief cause of the troubles which arise in operating a business is lack of thoroness—thoroness in the mastery of the essential factors of any situation, in preparation before action, in the choice of a location, in the analysis of processes, in providing for all contingencies in contracts, leases and options, and in the study of the markets. Similarly a lack of thoroness in investment is the prolific mother of losses. Failure to study the underlying conditions, failure to master the significance of the signs of the barometers as they stand at a given period, failure to

read the mortgages, trust deeds, franchises and other important documents which determine liens, and the resort as a consequence to impulsive trading and whimsical experimentation on the market, can only lead to the same results which similar conduct would produce in any other field of endeavor.

2. *Promotion versus investment.*—It is well to distinguish between investment and promotion. A mining expert may reasonably handle a prospect; an investor should only hold shares in an established mine. A specialist in some branch of mechanics may properly develop a patented device; an investor should hold only the securities of established manufacturing corporations. To put capital into an enterprise which has not yet a proved earning power is not investing but promoting.

3. *The man behind the guns.*—Not long before he died, J. P. Morgan said that he would not loan capital to a man without character, no matter what security might be offered. As to pure investment, it may be said that, with the many undetermined elements in the American property law and the thousand and one causes of delay which American methods of trial procedure permit, often an unscrupulous man can largely deprive property of its power quickly and economically to satisfy debts. As to the earning power by which business property avoids the costs and wastes of liquidation, the intricacies of proprietorship-accounting provide only too ample an opportunity for a man, whose motives are not right, to disguise

his operations. The best way to avoid the nervous strain of suits at law and the complexities of falsified accounts is to analyze the character of the men to whom one proposes to intrust property.

4. *Trustee system.*—The approved method of raising funds for a new enterprise is to appoint a trustee, usually a bank or trust company. The trustee receives money and disburses it for purposes legitimate for the inauguration of the enterprise, or else returns it to the subscribers, less a specified maximum percentage for expenses of flotation. The relations between the enterprise, the trustee and the subscriber, under such a method, are governed by a trustee's agreement, which the prospective subscriber would do well to examine.

5. *Developing properties.*—Different types of investment are appropriate for the different ages of a lifetime. It is proper for a young man to seek investments in growing regions, in young cities and in businesses of a promising future. The natural increase of population, operating thru a couple of decades will both increase his capital, thereby accommodating the increasing expenses of middle life, and will enhance the security, as security should be enhanced in the investments of later life.

6. *Speculation versus investment.*—There is a distinction in the temperaments of capital owners, and there is a distinction between investment and speculation, but guidance is available in the resources of organized knowledge. Mr. Henry Lowenfeld, in the

British Financial Review of Reviews, of January, 1911, said:

It has sometimes been asserted that there is no marked difference between investment and speculation. This was true at one time—before research, investigation and experiment had raised investment to an exact science. There is now a very distinct line of demarcation between the two. The future result which any investment is likely to produce can now be gauged with a remarkable degree of accuracy, while there is no known means of foretelling how a speculation will mature. Moreover, it has now been proved conclusively that investment and speculation cannot be combined with any prospect of success; for each must be conducted from an entirely different standpoint in every essential.

In agreement with this, Mr. Lawrence Chamberlain says, in his "Principles of Bond Investment":

There is nothing invidious in a comparison of investment and speculation. Each is necessary to the other, and both to the conduct of business. There is more or less speculation in every investment, and investment in every speculation. But in the large, investment is a science, and speculation is an art . . . It is in accord with our thesis . . . that successful speculation is a high order of finance, but unsuccessful speculation is gambling.

7. *Limitation of risk.*—The simplest way to engage in speculation, and yet limit risk, is to permit only a certain percentage of one's property to be subject to material hazard. The average capitalist will keep by him a given sum in savings bank deposits, available to meet sudden contingencies. A main portion of his holdings may be in the enterprises in which he

combines with his capital his personal services as an administrator. Another portion may be invested in good bonds, to serve as a nest egg, if both business and speculative capital were destroyed. A final percentage may be employed to take advantage of the fluctuations of prices, on the principle of converting holdings at the top and bottom of the major long swings of the stock market.

Bacon said in his essay "On Riches," "He that resteth upon gains certain, shall hardly grow to great riches; and he that puts all upon adventures, doth oftentimes break and come to poverty; it is good, therefore, to guard adventures with certainties that may uphold losses."

8. *Distribution of risk.*—Another means of eliminating hazard is to divide holdings so that they will be subject to different principles of fluctuation, and so the losses of one part will be neutralized by the gains of another part. Distribution, subdivision or averaging of risk may be with reference to individual businesses, such as an investment in three or four gas companies instead of in one. It may be with reference to branches of industry, as divided between textile stocks, gas bonds, farm mortgages and real estate bonds; or it may be with reference to regions and countries, as when American securities are supplemented by Argentine rails and Russian rouble loans.

In England, the most discussed principles of investing are those connected with the territorial dis-

tribution of risk. The English, having had long experience in foreign investment, have found that the world may be divided into about ten great regions, each of which is reasonably independent of the others in the occurrence of periods of prosperity and depression. Naturally, the idea developed of dividing an investment fund between different regions. The rules for this distribution have been formulated as follows:

1. The quality of all securities involved in one scheme of distribution should correspond closely.

2. The amount of capital invested in each hazard (whether of corporation, line of business or locality) must be as nearly identical as possible.

These two rules give the sum of the risk in terms of quality and quantity.

3. Each corporation invested in must be actually a separate risk; that is to say, independent of the forces influencing the hazard of any others of the series.

4. To these rules we may add another. The greater the risk the more the holdings should be subdivided.

9. *Take advantage of the long swings.*—In the chapters on The Cycle of Trade and on Investment Barometers it was pointed out that the investor should take advantage of the long swings. The difficulty of conversion comes at the top. When the investor is filled with enthusiasm he is asked to cut down his income by purchasing gilt-edged bonds and notes of

low yield. This loss is less, however, than the loss of holding securities that are much affected by business conditions, thru a crisis or major reaction. Furthermore, such a conversion of holdings is indispensable for getting the ready funds with which to buy at the bottom.

10. *Price versus intrinsic value.*—The employment of the rule just mentioned calls for the investor to go against his natural inclination. He is selling when securities seem most profitable, and buying when they seem worth least. Thru the diligent study of conditions the investor must shake himself clear of the impression that market prices and the values of securities to him personally, correspond.

In his work on "The Holders of Railway Bonds and Notes," Mr. Louis Heft says:

> The market value of a railroad security does not depend always upon its actual, intrinsic value alone, i.e., upon the property and its foreclosure value, pledged as security, and the other liens, prior and junior, against such property; but is affected, quite often, and sometimes quite materially, by extraneous influences, among them the temper of the times; the state of the money market; the quoted price; whether or not it has a broad and ready market and is a legal investment for trust funds or savings banks; its form, whether easy of negotiation and how quickly it can be converted into cash; when it matures; its rate of interest and the income it produces at the price; whether or not it is listed on the stock exchanges; the personnel of the board of directors of the railroad company; the prevalent reports, true or false, of the state of the finances and affairs of the road; the effect of recent legislation or expected legislation; recent decisions of the higher courts; pending litigation that

affects the road; events and reports of political significance, local, state, national or international.

11. *Previous prices.*—Still less is a security valuable to an investor according to some past price which represents the original cost. To confirm a security as an investment at any time is virtually to reinvest in it at the prevailing price.

12. *Corporation reports.*—A company should be judged, in part, by the public account it gives of itself. Nine times out of ten a policy of secrecy is based upon ignorance of the degree to which the matters safeguarded are the common property of other businesses. In the tenth case, secrecy represents some anti-social policy, and a consequently fugitive profit of which the investor should keep clear.

13. *Certified public accountants.*—At every step in investment, the investor's chief safeguard is expert knowledge animated by professional ideals. In this country, the standard manner of certifying balance sheets and income accounts is thru the services of certified public accountants.

14. *Capital versus earning power.*—The more ethereal the assets of a corporation are—compounded of good-will and patent or franchise rights—the more the investor must inquire into earnings and the conditions influencing them. The more stable and steady the course of an industry, with reference to earnings, the more the points of the security have to do with the terms of mortgages and the nature of the lien upon the property.

The more the emphasis is placed upon property, the safer the principal and the smaller the income. The more the emphasis is placed upon income the larger the current yield should be to compensate for risk. The investor cannot demand successfully high security and high yield. He should determine as exactly as possible how yield and security should be combined for his purposes.

15. *Bonded debt.*—Reasonable debt limits depend upon two things: average experience as to the percentage recovered on property thru liquidation, and the amount of earnings required to remove the danger of liquidation. It usually happens that public utility companies whose income is steady, pass thru liquidation with small loss, because they are easily managed and can find buyers at a reasonable discount without difficulty. Because of their importance to community welfare they frequently avoid liquidation by receivership organization.

16. *Wasting assets.*—Wasting assets should always be amortized in the investor's accounts. In certain lines of investment, such as timber bonds and car trust certificates, the investor will find the proper provisions made for him. In other lines, especially mining, he must make them for himself.

17. *Gross income, operating expenses, net income, surplus.*—These items of financial data should be demanded by an investor of the company into whose securities he puts his money. From the comparison of such figures of the present with those of

past years, and of his own company with those of other companies, he can derive a variety of test ratios for his own guidance; such as (a) maximum percentage of shrinkage of gross and net earnings in years of depression; (b) the number of times by which net earnings should exceed fixed charges, and (c) the number of times by which surplus available for dividends should exceed dividend requirements for common and for preferred stocks.

18. *Dividend record.*—The dividend record is of no value for short periods and resort should be had to the record of earnings, because many disastrous failures have resulted from stripping a company of its working capital to pay dividends. Such a stripping process cannot be continued for a long time, however, so a long dividend record is a high merit. It is reasonable to ask for the record of dividends thru the last panic and depression.

19. *Characteristics of securities.*—Securities possess a number of fairly distinct characteristics. The investing process consists of arbitrating between the desired degrees of the different characteristics, offsetting extra merit in one line against deficiency in some other line, and making final judgment on the basis of the correspondence between the qualities of the security and the requirements of the individual investor.

The matter is thus put by the Guaranty Trust Company of New York City:

There are five chief points to be considered in the selection of securities for investment.

First: Security of principal and interest, or the assurance of receiving the principal and interest when due.

Second: Rate of income, or the net return which is realized on the actual amount of money invested.

Third: Convertibility into cash, with which is included availability as collateral.

Fourth: Minimum fluctuation, or stability of market price.

Fifth: Prospect of appreciation in value.

These five qualities are present in different degrees in every investment, and the scientific investor always selects securities in accordance with the qualities upon which he desires to place emphasis. The average investor does not thoroly realize that a high degree of one quality implies a lower degree of other qualities. He may have a general impression that a security which pays unusually well is likely to be somewhat unsafe, but he rarely applies the same reasoning to other characteristics. For example, it is quite common to find a private investor who wishes to make a permanent investment, and has no thought of reselling, buying bonds which possess in a high degree the quality of convertibility. From his point of view, this is pure waste. A high degree of convertibility is only obtained at the sacrifice of some other quality, usually rate of income. If this investor more thoroly understood this point, he would buy an inactive bond of equal safety and higher yield, thus increasing his income at the expense of a quality which he does not need.

20. *Convertibility.*—There is, perhaps, a general tendency to over-buy convertibility, especially as that quality is conferred by listing on some prominent stock exchange. The more any particular employment of capital is a speculation rather than an investment, the more important the feature of convertibil-

ity becomes, for speculation is the effort to profit by changes of market price rather than from income earned by the productive use of the capital in industry. When the investor converts into time-money propositions at the top of the market, he should give greater attention to marketability than when he purchases stocks at the bottom.

21. *Sources of information.*—The investor will find the records of market prices in the *Wall Street Journal* and the *Commercial and Financial Chronicle.* Abbreviated lists are published in most New York, Boston and Chicago papers. Among investment periodicals, *Moody's Magazine* and the *Magazine of Wall Street* may be mentioned. There are two manuals which compile annually the essential information contained in corporation reports. These are "Moody's Manual of Railroads and Corporation Securities," and "Poor's Manual of Railroads." Much information can be compiled at little expense by writing at frequent intervals for the special circulars and analyses advertised by bond houses.

The investor should not learn ticker terminology and he should avoid forming the habit of ruminating daily on the shifts he can make in his securities.

22. *Investment bankers.*—Finally, and most important of all, care should be taken to choose an honorable and powerful bond house. Such a house will serve not only as a source of supply, but as a counselor before purchase, and a means of securing full current information regularly after purchase.

"An investment banker," says Mr. James Sheldon of Lee, Higginson and Company, "is one who sells with his recommendation a bond which he owns, having purchased and paid for it after critical examination. He serves the lender with his advice, his experienced organization, his expert staff and his financial resources. His feeling of responsibility continues until the bond is paid, principal and interest."

In recent decades, a great elaboration of the forms of promoting and property management has been going on in this country. In consequence, the investor has found himself assailed on all sides with the propositions of bidders who are rivals for his money. He has been unable to increase his knowledge as rapidly as the situation has increased in complexity. In making an unaided choice he is unable to analyze these various types of enterprise sufficiently to safeguard himself. His position may be graphically pictured by Figure 8.

But at the same time a fund of knowledge has been accumulated, and new departments of professional skill have been developed embracing men who are taking their places alongside the original professions of law, medicine and theology. If the investor should appeal directly to this knowledge and this body of professional experts for protection, his situation would be as pictured in Figure 9.

Only the greatest individual and corporate investors, such as life insurance companies and large

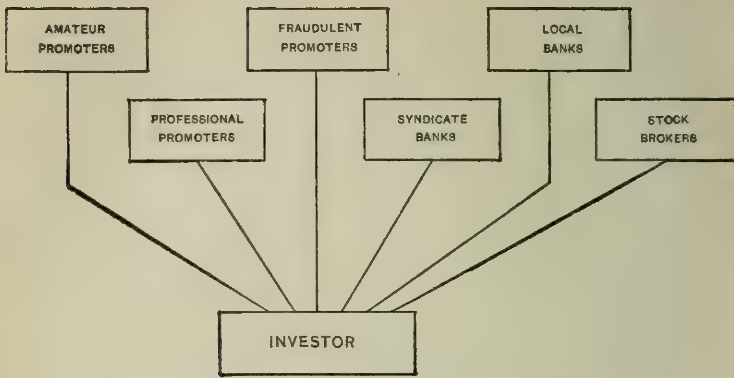


FIGURE 8. THE UNAIDED INVESTOR.

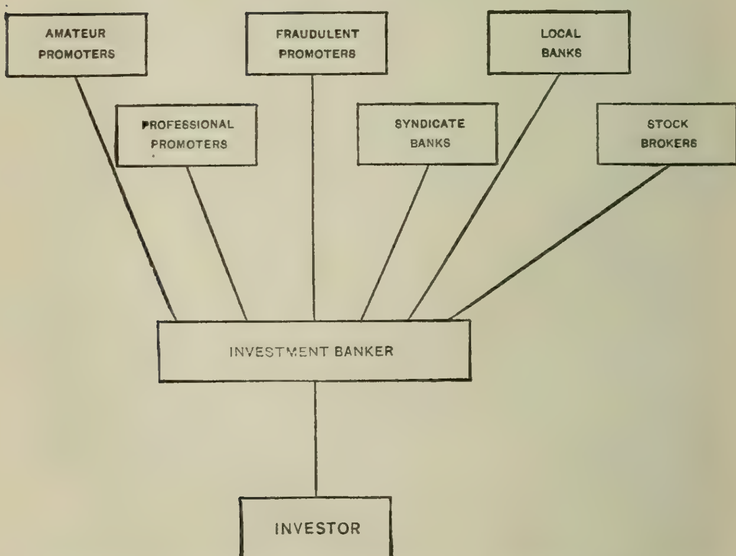


FIGURE 9. THE INVESTOR PROTECTED BY AN INVESTMENT BANKER.

banks, can afford to pay the consultation fees and the expenses of special investigation which such a direct relation would involve. This professional skill has therefore been organized, for the use of the general investing public, into the form of the

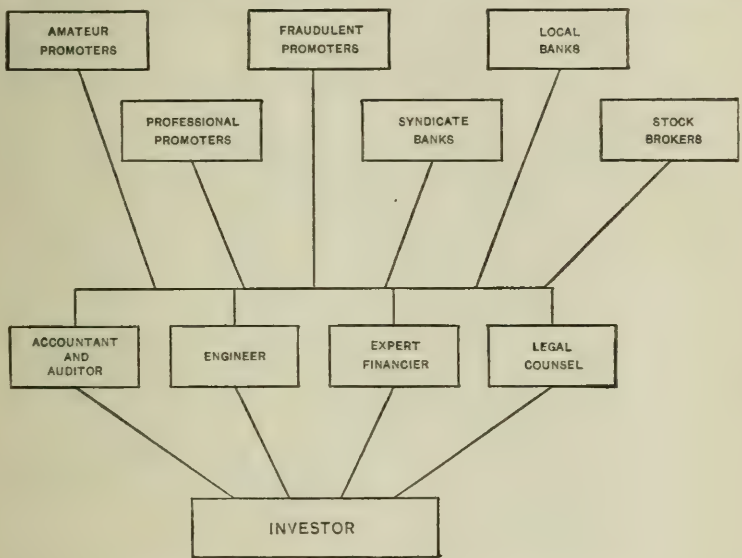


Figure 10. The Investor Protected by Experts.

consultive and permanent staffs of the leading bond houses. Thru such an organization, investors are able to concentrate their patronage in a manner which makes the cost of adequate protection very moderate. This situation may be pictured as in Figure 10. At the same time still another safeguard is erected, namely, the pride of the bond house in its record and its clientèle.

A first-class bond house makes thoro investigations, purchases securities with its own money, sells these securities to investors at a slight advance in price, furnishes reliable summarized information, provides a market for the resale of the securities furnished to clients, and defends its investors against the mismanagement or temporary misfortune of the operating companies by the use of its staff and its great financial resources.

Ex-President Eliot has charged that one of the characteristic defects of American practice is failure to esteem the expert sufficiently. To this point attention was drawn in the first of the rules offered in this chapter, where it was urged that, within the limits of his individual sphere of action, the investor should strive for thoroness. To the same point this last rule returns in urging that, beyond his proper domain of independent action, the investor should be guided by experts who are animated by high ideals of professional service.

REVIEW

What is the difference between promotion and investment?

What is the difference between speculation and investment?

In what various ways may risk be averaged thru investment distribution?

Give four English rules for proper geographical distribution of risk.

In what investments should the investor give special attention to the quality of convertibility?

Reproduce from memory the three graphs showing

(a) The position of the unaided investor;

(b) The position of the investor aided by professional experts; and

(c) The position of the investor aided by a bond house.

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